1975-06

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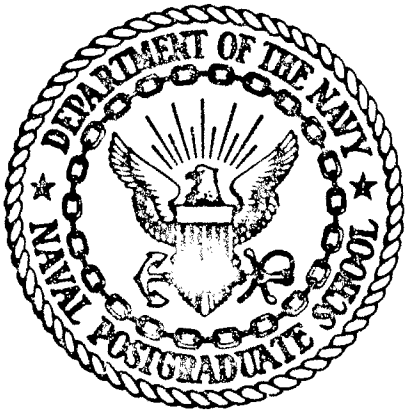

THESIS

UNAUTHORIZED ABSENTEEISM IN THE UNITED STATES MARINE CORPS

by

D. J. Jenkins

June 1975

Thesis Advisor: Richard S. Elster

NAVAL
POSTGRADUATE
SCHOOL

April 12, 2012

SUBJECT: Change in distribution statement for *Unauthorized absenteeism in the United States Marine Corps* – June 1975.

1. Reference: Jenkins, D.J. *Unauthorized absenteeism in the United States Marine Corps*. Monterey, CA: Naval Postgraduate School, Department of Operations Research and Administrative Sciences, June 1975. UNCLASSIFIED [Internally Distribute Report].

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Unauthorized Absenteeism in the United States Marine Corps		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis June 1975 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) D. J. Jenkins		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Headquarters, U.S. Marine Corps (Code MP) Washington, D. C.		12. REPORT DATE June 1975 13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) Naval Postgraduate School Monterey, California 93940		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

~~INTERNALLY DISTRIBUTED~~

Approved for public release; distribution unlimited.

~~REPORT~~

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

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S/N 0102-014-6601 |

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includes a count of 6,799 incidents which were for a period of less than 24 hours and 12,393 incidents of desertion. The recidivism rate was found to be approximately 40.5 percent with 13,966 Marines as repeat offenders who were responsible for 39,630 incidents of UA. The Marine Corps also lost 2,230,033 man-days of service as a direct result of unauthorized absenteeism initiated during 1974. In addition, demographic factors were examined, in a preliminary way, for their possible relationship to absenteeism.

Unauthorized Absenteeism in the United States Marine Corps

C PT. 2

by

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

This research looked at absenteeism on a Corps-wide basis to determine the extent of recidivism and man-days lost to the Marine Corps as a result of unauthorized absenteeism. The personnel records for absentees contained in the Marine Corps' Transaction Retrieval System files were analyzed using computer programming. It was found that there were 60,120 incidents of unauthorized absence (UA) reported during the Calendar Year 1974. This number includes a count of 6,799 incidents which were for a period of less than 24 hours and 12,393 incidents of desertion. The recidivism rate was found to be approximately 40.5 percent with 13,966 Marines as repeat offenders who were responsible for 39,630 incidents of UA. The Marine Corps also lost 2,230,033 man-days of service as a direct result of unauthorized absenteeism initiated during 1974. In addition, demographic factors were examined, in a preliminary way, for their possible relationship to absenteeism.

TABLE OF CONTENTS

I. INTRODUCTION[1]

Unauthorized absences (UA's) and desertion became increasingly serious problems for the Marine Corps during the later years of the Vietnam conflict. The lowering of mental and physical standards for induction just prior to the 1965 build-up of forces in Vietnam, as well as 'Project 100,000'[2] and the unpopularity of the Vietnam conflict, appear to have contributed to this rise in delinquency rates.

Between 1967 and 1970, desertion rates increased from 27 per 1,000 Marines to 60 per 1,000 in 1970. During this same period UA's increased from 78 per 1,000 to 174 per 1,000. That this problem has continued to grow in severity is evidenced by recent Marine Corps statistics[3] which indicate that the desertion rate has now grown to 89 per 1,000 and the UA rate to 288 per 1,000 Marines for 1974. This amounts to approximately 15,500 incidents of desertion and 50,200 incidents of UA for Fiscal Year 1974!

As a direct result of these increases, a large burden has been placed upon the Marine Corps in terms of man-hours lost

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[1]Patterned after and adapted from research done by Drucker (1973) and Shoemaker (1974) to facilitate comparison with the most recent Army research.

[2]Internal Marine Corps correspondence, references held by author.

[3]Ibid.

through apprehension and confinement of offenders as well as reduced morale. Not only are personnel who are absent from duty unable to perform the tasks or duties to which they are assigned, but their absence often interferes with the performance of those tasks to which their replacements had initially been assigned. In addition, manpower is lost when personnel are needed to administratively process absentee reports, to prosecute UA Marines, and to administer whatever punitive measures are awarded as a result of disciplinary action. High UA rates also have a detrimental effect on the morale of other Marines, further reducing the performance efficiency of men who have not gone UA or deserted, and the units to which they belong.

One solution to the UA/deserter problem would be the rejection of recruits who would be likely to go UA during their military service. Assuming that the manpower source is large enough to supply the required number of Marines and that UA-prone Marines could be identified, those most likely to go UA need not be accepted. Another solution could require that those Marines most likely to go UA or desert be given special treatment and counselling by the Marine Corps to reduce the likelihood that they would, in fact, go UA. For example, special counselors could be assigned to those designated potential absentees to help them with personal problems or in adjusting to the demands of Marine Corps life.

While either approach could possibly minimize the Marine Corps' UA problem, they both require a means for identifying absentees in advance. Unfortunately, previous attempts to develop techniques for predicting which Marines would go UA and/or desert have been relatively unsuccessful. Nevertheless, the fact that some Marines go UA while others do not, even when facing similar situations, strongly suggests that the factors that predispose them to become absentees lie in the background, attitudes, and personalities of the Marines themselves. These factors have led to increased interest on the part of the Marine Corps in obtaining information that might help in combating the increasing tendency toward UA and desertion.

II. LITERATURE REVIEW

There is no lack of information available on absenteeism for the civilian sector of our society. For example, L. W. Porter and R. M. Steers (1972) reported on the research carried out over the last fifteen years on factors related both to turnover and absenteeism. Over sixty empirical studies were reviewed and organized under the topics of: overall job satisfaction, organization-wide factors, immediate work environment factors, job-related factors, and personal factors. In comparison, however, limited research has been conducted in the military sector. The following review is adapted from the research of E. H. Drucker (1973) and W. B. Shoemaker (1974) and is presented to indicate the nature and scope of research done in the military sector.

A great deal of research has been conducted in an attempt to identify factors among military personnel that predispose servicemen to become absentees, and a number of personality and background factors have been found to be associated with this delinquent behavior. For example, the Army Behavioral Science Research Laboratory (BESRL) conducted a study [1] in which three delinquency scales from the Personal Opinion Study and a scale developed from BESRL's Personal History Form, the Overall Acceptability Scale, were administered to a sample of basic trainees. The scales were examined for their ability to predict delinquency by comparing the responses made by

nondelinquents to those made by soldiers who had later become disciplinary problems. But the results tended to show that the scales could not, at a statistically significant level, efficiently differentiate between the men in these two groups, and as a consequence, it was concluded that these scales would not be useful for predicting which soldiers would commit disciplinary offenses.

In other studies, the U. S. Naval Retraining Command [2, 3, 4, 5, 6] evaluated the Delinquency Potential (DP) scale, an instrument developed from personality tests. This scale was formulated from items selected from the Minnesota Multiphasic Personality Inventory (MMPI) and the California Psychological Inventory (CPI). To develop the DP scale, 474 items from the two personality tests were administered to 20,000 men. The 119 items to which delinquents and nondelinquents responded most differently were selected to be included in the scale. In one study [5], it was found that 51 percent of all delinquents could be identified, but 25 percent of the nondelinquents were incorrectly identified as delinquents. Thus, although the DP scale did differentiate between delinquents and nondelinquents, it did not differentiate well enough to be useful for prediction purposes because of the high percentage of false positives.

In another study of delinquency [7], the Socialization scale of the CPI was administered to 762 inductees and 303 stockade prisoners at Fort Ord. It was found that inductees

and stockade prisoners tended to differ in their responses. One-third of the stockade prisoners could have been correctly identified by the scale, but one percent of the inductees would have been incorrectly identified as prisoners. Because the number of recruits in the Army is far greater than the number of stockade prisoners, misclassification of one percent of the inductees would have caused a very large number of nondelinquents to be misclassified as probable delinquents.

The results of several studies indicate that delinquents more often have a history of juvenile arrest than do nondelinquents [8, 9, 10, 11]; that delinquents are younger than nondelinquents, usually much closer to the minimum enlistment age of 17 [12, 13]; that delinquents are more likely to be non-Whites [9]; that delinquents are more likely to have low mental aptitude scores [9, 10, 11, 12]; and that delinquents are more likely than nondelinquents to have less than an eleventh grade education [1, 10, 11, 12]. Many delinquents were found to come from unstable homes or homes in which the parents were divorced [9], or, if the father was present, discipline given by him was shown to be important, being either too harsh or too lenient [8, 9]. Research on the personality characteristics of offenders shows that they tend to flee frustrating situations rather than face them. They have few long-range goals, are impulsive, and seek immediate satisfaction of needs. UA's have been described as being overly aggressive, hostile toward their environment, egocentric, and

more likely to have somatic complaints [13]. In addition, military delinquents have been found to be low in self-esteem [14].

A study by the U. S. Navy Neuropsychiatric Unit [15] found that factors that predicted adjustment to the Marines included years of education, history of school repulsion, and age at enlistment. Among those factors found by researchers [16] to discriminate between delinquents and nondelinquents in the Navy were type of home life, number of health complaints, and history of civilian delinquency. In an earlier study of military delinquency by HumRRO [13], such factors as socio-economic status, home background, pre-Army delinquency, and aggressiveness were found to be important.

In a recent HumRRO study Drucker [12] examined the following additional factors to determine their relationships with UA: personality, attitude toward the Army, career orientation, age, years of education, intelligence, aptitude, race, Army component, and physical status. The subjects were 2,072 enlisted men assigned to the U. S. Training Center, Armor, for basic combat training. Each man completed five scales from the California Psychological Inventory (CPI) and the TA-111 Questionnaire, an attitude scale measuring favorability of attitudes toward the Army. Absentee information was obtained for each subject from units' morning reports. During both basic combat training and initial duty assignment, UA and non-UA subjects were found to differ in their scores on the

five personality scales. At both times, the non-UA subjects had the more socially desirable personalities; UA and non-UA subjects did not differ in their attitudes toward the Army; UA soldiers were found to have less education, lower intelligence, lower mechanical aptitude, and lower clerical aptitude than non-UA soldiers; neither race nor physical status was found to be related to UA; the same factors appear to cause both younger and older soldiers to go UA; the same factors that caused soldiers to go UA also influenced acquisition of military skills and leadership potential.

In the latest HumRRO study, Shoemaker [17] continued to explore the potential use of personality tests for predicting which soldiers would go UA. Using 1,199 enlisted men assigned to the U. S. Army Training Center at Fort Knox for basic combat training, each soldier completed the Delinquency Scale from the Minnesota Multiphasic Personality Inventory (MMPI), which measures abnormal personality traits; the Navy Delinquency Potential (DP) scale, a screen device for recruits prior to induction; the Psychopathic Delinquency Neurotic Delinquency and Subcultural Delinquency scales from the Personal Opinion Study (POS), a personality inventory designed for use among normal persons; and a background information questionnaire. UA information was obtained for each subject from company commanders' misconduct reports. After eight months, follow-up data were collected. The soldier's relationship with his mother was the variable that best

differentiated between UA's and nondelinquents and between delinquents and nondelinquents after eight months in service. Other variables that successfully differentiated between UA's and nondelinquents after eight months were the type of discipline used by the father, marital status of parents, the Neurotic Delinquency Scale of the Personal Opinion Study, and UA intention. Variables that successfully differentiated between delinquents and nondelinquents after eight months were the type of discipline used by the father, age, UA intention, and marital status of parents. While there were fewer absentees identified, there were far fewer false positives. The Delinquency Potential scale was the variable that best differentiated between UA and nondelinquent soldiers and between delinquents and nondelinquents during basic combat training; but the DP scale was not a useful predictor of UA status for soldiers with more than eights months of service. It also appeared that demographic variables were better able to differentiate between nondelinquents and either UA or delinquent soldiers than were delinquency scales.

Using all variables that enabled statistically significant separation of men into UA and nondelinquent groups during basic combat training, 18 percent of the UA's and 99 percent of the nondelinquents could be correctly identified. For every US soldier who was correctly identified, two nondelinquents were falsely classified as UA. After eight months in service, 35 percent of the UA men and 99 percent of the nondelinquents were

correctly identified for every nondelinquent falsely classified as UA.

Thus, while attempts to develop a scale for predicting which individuals would commit delinquent acts and become absentees have improved, they are still not efficient enough for practical use. While many successful predictions of delinquency can be made using these scales, they can be made only at a high cost since, for each absentee/delinquent correctly identified, an even greater number of nondelinquents would be incorrectly identified. If Marines were obtained from an unlimited source of manpower, erroneous classification might be tolerated. However, when they must be obtained from a limited manpower source, one that appears to be growing smaller [18], erroneous classification leads to the loss of too many successful Marines to be practical. It is clear that if potential delinquents are to be prohibited from military service, it first will be necessary to develop better techniques for predicting delinquency and unauthorized absence.

As can be concluded from the above material, the research that has been done in this area has been oriented toward attitudinal surveys and personality scales with less attention paid to demographic variables. In general, absentee studies appear to be based on the assumption that there is a similarity amongst absentees (aside from the commonality of absence) differentiating them from others, and to this end researchers continue to refine instruments such as personality scales.

This thesis explores the available material from the personnel records of the Marine Corps to explicate the scope of the UA and deserter problems and to examine, in a preliminary way, demographic factors possibly related to these problems.

III. METHOD

A. TRANSACTION RETRIEVAL SYSTEM (TRS)

The purpose of this research was to look at absenteeism on a Corps-wide basis to determine the extent of recidivism and man-days lost to the Marine Corps as a result of such unauthorized absenteeism. The research was accomplished by computer analysis of historical data records provided by Headquarters, Marine Corps.

The data provided the researcher consisted of seven reels of magnetic tape which were the Transaction Retrieval System (TRS) data tapes for the period 1 January 1974 to 31 December 1974 and six similar reels of tape for 1973. The TRS is a subsystem within the Marine Corps Manpower Management System (MMS) and is a historical file made up of statistical transactions. The basic input to the TRS is a Unit Diary report which is submitted daily, or as required, to update personnel records by subordinate Marine commands at the reporting unit level (lowest unit commanded by an officer). For example, a Marine infantry company would submit daily reports to the computer facility describing personnel events such as promotions, leave status and absences.

Each unit diary action statement which is input into the MMS in accordance with Marine Corps directives is encoded within the system and is assigned one of approximately 500 type transaction codes (TTC). The assigned TTC is utilized during computer processing to identify the encoded action

statement as being of a certain type; e.g., promotion, MOS change, to leave, etc., to ensure that each individual master record is updated correctly. Approximately 300 critical action statements which generate 77 TTC's have been designated by the Marine Corps as statistical transactions. This designation as a statistical transaction requires MMS computer facilities to build a 240 byte statistical record each time one of the designated TTC's is processed at a computer facility. Each statistical record is assigned one of 46 type change codes (TCC) depending upon the TTC which caused the statistical record to be built.

There are seven type change codes (TCC) which are concerned with unauthorized absenteeism:

1. 'UA' - Marine absent less than 24 hours.
2. 'U9' - 'UA' entry above is excused.
3. 'U1' - To unauthorized absence.
4. 'U5' - From unauthorized absence.
5. 'U7' - 'U1' entry above is excused.
6. 'R4' - To desertion.
7. 'A7' - From desertion.

The statistical transactions include an action date to record the occurrence of the event.

B. PROGRAMMING

The structure of the TRS does not lend itself to ready analysis of the type undertaken by this research and it was necessary to code, sort and align the sought after information

by the means of computer programs. The investigator wrote these programs. The first step in putting the data into a more usable form was done utilizing the program 'ABSCODES.' This program read the seven TRS tapes, searched for absentee codes (TCC codes) and wrote them on a new tape. Thus, the seven tapes were collated onto one reel. Appendix A contains this program.

The second step was to code the records into arithmetically operable form for statistical analysis; i.e., from alphanumeric and alphabetic characters to numeric representation. This step also reduces the size of the record from 240 bytes to 80 bytes in length. Appendix B contains the program 'CODERUN' used in this step.

Inasmuch as an individual Marine's absence record is not unbroken within the TRS because of the time lapse between entries, the third step was to sort the data by Social Security number, date, and TCC code. Program 'SSANSORT' which performed these operations is enclosed as Appendix C.

The last step in data preparation was to condense all the separate entries into a single record for the Marine who caused them. One of the functions of the fourth computer program 'ABSENTEE,' Appendix D, was to calculate and record the number of days of absence for each incident of unauthorized absence. This was done by subtracting the date a Marine went to UA, or to desertion, from the date he returned. It is possible for incorrect entries to be posted to the TRS system

and also for entries to be missing. The following examples are provided to indicate the program logic dealing with this facet of data development.

EXAMPLE 1:

Code	SSAN	ACTION DATE[4]
U1	123-45-6789	Jan 2, 1974
U5	123-45-6789	Jan 7, 1974
U1	123-45-6789	Mar 4, 1974
U7	123-45-6789	Mar 9, 1974
U1	123-45-6789	Sep 1, 1974
U5	123-45-6789	Oct 1, 1974

Program 'ABSENTEE' would compute:

1. Days lost first absence = 5 (Jan 2 to Jan 7).

2. Days lost next absence = 'not computed as code indicates excused.'

3. Days lost second absence = 30 (Sep 1 to Oct 1).

4. The Marine had two unauthorized incidents of absence and one excused absence.

5. Total man-days of service lost = 35.

6. Average time gone per UA was 17 days.

EXAMPLE 2:

Code	SSAN	ACTION DATE
U5	123-45-6789	Jan 7, 1974
U1	123-45-6789	Mar 4, 1974
U7	123-45-6789	Mar 9, 1974
U1	123-45-6789	Sep 1, 1974
U5	123-45-6789	Oct 1, 1974

[4]Action date refers to date event occurred and not the date posted to the MMS files.

Program 'ABSENTEE' would compute:

1. Jan 7 entry ignored.

2. One excused absence (Mar 4 to Mar 9).

3. Days lost on the first absence = 30 (Sep 1 to Oct 1).

4. The Marine had one incident of unauthorized absence and one excused absence.

5. Total man-days of service lost = 30.

6. Average time gone 30 days.

EXAMPLE 3:

Code	SSAN	Action Date
U1	123-45-6789	Jan 2, 1974
U5	123-45-6789	Jan 7, 1974
U7	123-45-6789	Mar 9, 1974
U1	123-45-6789	Sep 1, 1974

Program 'ABSENTEE' would compute:

1. One excused absence (Jan 2 to Jan 7).

2. Days lost first absence = 122. Note--Marine began absence Sep 1 and had not returned by Dec 31.

3. The Marine had one excused absence and one unauthorized absence.

4. Total man-days of service lost = 122.

5. Average time gone = 122 days.

EXAMPLE 4:

Code	SSAN	Action Date
U1	123-45-6789	Jan 2, 1974
U5	123-45-6789	Jan 7, 1974
U1	123-45-6789	Mar 4, 1974
U7	123-45-6789	Mar 9, 1974
U5	123-45-6789	Oct 1, 1974

Program 'ABSENTEE' would compute:

1. Days lost first absence = 5 (Jan 2 to Jan 7).

2. One excused absence (Mar 4 to Mar 9).

3. An error for the October 1 entry.

4. The Marine had one unauthorized absence and one excused absence.

5. Total man-days of service lost = 5.

6. Average time gone = 5 days.

Examples 1 and 2 were the typical cases encountered in the TRS files, while Examples 3 and 4 were not. The latter two examples triggered an error counter which incremented each time such a record was encountered. It should be noted that there were seven possibilities each time an entry was read for a given Marine; although all such possibilities are not illustrated here, Program 'ABSENTEE' does provide for these eventualities.

C. STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES (SPSS)

The following extract is taken from the introduction to the textbook describing SPSS [20]. "The Statistical Package for the Social Sciences (SPSS) is an integrated system of computer programs for the analysis of social science data. The system has been designed to provide the social scientist with a unified and comprehensive package enabling him to perform many different types of data analysis in a simple and convenient manner. SPSS allows a great deal of flexibility in the format of data. It provides the user with a

comprehensive set of procedures for data transformation and file manipulation, and it offers the researcher a large number of statistical routines commonly used in the social sciences."

"In addition to the usual descriptive statistics, simple frequency distributions, and crosstabulations, SPSS contains procedures for simple correlation (for both ordinal and interval data), partial correlation, multiple regression, factor analysis, and Guttman scaling. The data-management facilities can be used to modify a file of data permanently and can also be used in conjunction with any of the statistical procedures. These facilities enable the user to generate variable transformations, to recode variables, sample, select, or weight specified cases, and to add to or alter the data or the file-defining information. SPSS enables the social scientist to perform his analysis through the use of natural language control statements and requires no programming experience on the part of the user."

SPSS is not presently available to analysts at Headquarters, Marine Corps. However, it was available to this researcher and was utilized extensively during the conduct of his thesis research.

IV. RESULTS

A. TRS FILE

The TRS file as accessed by the programs given in Appendices A - D is an effective and useful tool for the study of absenteeism in the Marine Corps. With but minor programming changes any Marine command that houses a computer facility can, in a matter of minutes, monitor absenteeism down to the level of the individual reporting unit.

By using the 'ABSENTEE' computer program with the TRS, the following results were obtained for the Marine Corps for the Calendar Year 1974:

1. There were 60,120 incidents of absenteeism reported. This number includes a count of 6,799 incidents which were for a period of less than 24 hours (TCC code 'UA').

2. These incidents were caused by 34,456 different Marines.

3. There were a total of 126,901 absence entries in the TRS file; within these entries 2,298 records were encountered which triggered an error counter. This is an error percentage of 1.83 percent. There were, in addition, 1,429 duplicate entries in the system.

4. There were 1,196 cases of reported unauthorized absence that were subsequently excused.

5. The Marine Corps lost 2,230,033 man-days of service as a direct result of unauthorized absenteeism. This is a conservative figure and does not include absences less than

24 hours or absences initiated at a time prior to January 1, 1974, and continued into 1974.

Similar results were obtained for Calendar Year 1973:

1. There were 63,470 total incidents of absenteeism including 12,452 absences of less than 24 hours.

2. These incidents were caused by 34,267 Marines.

3. The computer program 'ABSENTEE' encountered 4,342 entries it treated as errors, and on a basis of 126,803 total system entries, this represents an error percentage of 3.42 percent. Five thousand duplicate entries were also encountered.

4. The Marine Corps lost a minimum of 2,385,905 man-days of services during Calendar Year 1973 as a result of unauthorized absences - not including absences of less than 24 hours duration.

B. SPSS

The SPSS programs can be used to break out numerous relationships. Some results obtained by using SPSS with the 1974 data include:

1. Approximately 34,456 individuals caused 60,120 absences for a mean of 1.745 absences per Marine who went UA.

2. Of the 34,456 Marines, 20,490 individuals were absent only once, leaving 13,966 Marines as repeat offenders (approximately 40.5%) responsible for 39,630 incidents of UA. This represents a mean of 2.84 absences per recidivist.

3. Of those 20,490 Marines who were absent only once, 5,848 (28.5%) were deserters[5] and 2,578 (12.6%) were absent less than 24 hours.

4. The mean/median number of lost days[6] during 1974 for the following categories were:

a. Deserters: 130/116 days.

b. Recidivist: 80/47 days.

c. Once only: 54/7 days.

d. Total population: 65/21 days.

5. The mean/median duration of the first absence was:

a. Deserter: 76/42 days.

b. Recidivist: 18/4 days.

c. Once only: 54/7 days.

d. Total population: 40/6 days.

The below tables are representative of some of the results that can be obtained using the Statistical Package for the Social Sciences.

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[5]Normally a Marine is declared a deserter when he has been absent for 30 days. A Marine can also be declared a deserter immediately if there is clear indication that he does not intend to return to his unit.

[6]Lost days refers to total days lost during the calendar year and not to single incidents.

TABLE I

RECIDIVIST TOTAL ABSENCES
(THREE OR MORE TIMES)

CROSSTABULATION OF RANK BY RACE FOR 1974

RANK	COUNT ROW PCT COL PCT TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
PVT	1.	43 1.4 51.8 0.7	2059 66.4 49.2 33.2	995 32.1 51.9 16.1	4 0.1 28.6 0.1	3101 50.0
PFC	2.	29 1.5 34.9 0.5	1347 68.0 32.2 21.7	598 30.2 31.2 9.6	6 0.3 42.9 0.1	1980 31.9
LCPL	3.	7 0.9 8.4 0.1	564 68.8 13.5 9.1	247 30.1 12.9 4.0	2 0.2 14.3 0.0	820 13.2
CPL	4.	2 1.0 2.4 0.0	148 71.8 3.5 2.4	55 26.7 2.9 0.9	1 0.5 7.1 0.0	206 3.3
SGT	5.	2 2.7 2.4 0.0	55 73.3 1.3 0.9	17 22.7 0.9 0.3	1 1.3 7.1 0.0	75 1.2
SSGT	6.	0 0.0 0.0 0.0	9 75.0 0.2 0.1	3 25.0 0.2 0.0	0 0.0 0.0 0.0	12 0.2
GYSGT	7.	0 0.0 0.0 0.0	2 40.0 0.0 0.0	3 60.0 0.2 0.0	0 0.0 0.0 0.0	5 0.1
COLUMN TOTAL		83 1.3	4184 67.5	1918 30.9	14 0.2	6199 100.0

TABLE II

RACIAL DISTRIBUTION OF UNAUTHORIZED ABSENCES BY DIVISION FOR 1974

	1ST MARINE DIVISION		2ND MARINE DIVISION		3RD MARINE DIVISION	
	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
American Indian	128	3.3	50	0.6	47	2.3
Caucasian	2848	72.5	4939	60.0	1340	66.9
Mongoloid	5	0.1	0	0	0	0
Negro	921	23.4	3241	39.4	604	30.2
Malaysian	25	0.6	5	0.1	11	0.5
Unknown	1	0.0	0	0.0	0	0.0
TOTALS	3928	100.0	8235	100.0	2002	100.0

TABLE III

UNAUTHORIZED ABSENCES BY DIVISION AND MOS FOR 1974

MOS	1ST MAR DIV		2ND MAR DIV		3RD MAR DIV	
	ABS. FREQ.	REL. FREQ. (%)	ABS. FREQ.	REL. FREQ. (%)	ABS. FREQ.	REL. FREQ. (%)
01 PERS ADMIN	86	2.2	118	1.4	48	2.4
02 INTELL	7	0.2	5	0.1	2	0.1
03 INFANTRY	1848	47.0	5273	64.0	1117	55.8
04 LOGISTICS	18	0.5	23	0.3	4	0.2
08 ARTILLERY	292	7.4	482	5.9	142	7.1
11 UTILITIES	31	0.8	33	0.4	9	0.4
13 SHORE PARTY	271	6.9	419	5.1	80	4.0
14 MAPPING	3	0.1	9	0.1	1	0.0
15 LITHOGRAPHY	2	0.1	3	0.0	2	0.1
18 TANKS	185	4.7	1	0.0	58	2.9
21 ARMAMENT RPR	78	2.0	59	0.7	20	1.0
23 EOD	12	0.3	19	0.2	7	0.3
28 TLE COMM RPR	14	0.4	17	0.2	7	0.3
30 SUPPLY	112	2.9	238	2.9	66	3.3
32 RPR SVCS	2	0.1	3	0.0	0	0.0
33 FOOD SVCS	125	3.2	176	2.1	53	2.6
34 AUDITING	10	0.3	4	0.0	4	0.2
35 MOTOR TRANS	386	9.8	585	7.1	170	8.5
41 MC EXCHANGE	1	0.0	19	0.2	1	0.0
43 PUBLIC AFF	0	0.0	0	0.0	1	0.0
44 LEGAL SVCS	3	0.1	1	0.0	0	0.0
46 PHOTOGRAPHY	0	0.0	4	0.0	1	0.0
49 TRNG SUPPORT	0	0.0	1	0.0	0	0.0
55 BAND	3	0.1	7	0.1	5	0.2
57 NBC	3	0.1	1	0.0	3	0.1
58 MP	5	0.1	18	0.2	3	0.1
59 ELEC MAINT	0	0.0	0	0.0	1	0.0
60 AC MAINT	1	0.0	1	0.0	0	0.0
61 AC MAINT	0	0.0	1	0.0	0	0.0
66 AVIONICS	0	0.0	1	0.0	0	0.0
71 AIR DELIVERY	0	0.0	0	0.0	1	0.0
UNKNOWN	430	10.9	714	8.7	196	9.8
TOTALS	3928	100.0	8235	100.0	2002	100.0

TABLE IV

RECIDIVIST TOTAL ABSENCES
(UA THREE OF MORE TIMES)

CROSSTABULATION OF MOS BY RACE FOR 1974

MOS	COUNT / ROW PCT / COL PCT / TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
Personnel & Administration	1.	2 1.0 2.7 0.0	133 67.9 3.6 2.4	61 31.1 3.4 1.1	0 0.0 0.0 0.0	196 3.5
Intelligence	2.	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 100.0 0.1 0.0	0 0.0 0.0 0.0	2 0.0
Infantry	3.	36 1.5 48.0 0.6	1419 58.9 38.1 25.4	945 39.2 53.1 16.9	9 0.4 69.2 0.2	2409 43.1
Logistics	4.	1 4.8 1.3 0.0	11 52.4 0.3 0.2	9 42.9 0.5 0.2	0 0.0 0.0 0.0	21 0.4
Field Artillery	5.	6 2.6 8.0 0.1	175 75.1 4.7 3.1	52 22.3 2.9 0.9	0 0.0 0.0 0.0	233 4.2
Utilities	6.	1 1.8 1.3 0.0	44 77.2 1.2 0.8	12 21.1 0.7 0.2	0 0.0 0.0 0.0	57 1.0
Construction, Equipment & Shore Party	7.	8 2.3 10.7 0.1	247 71.0 6.6 4.4	93 26.7 5.2 1.7	0 0.0 0.0 0.0	348
COLUMN TOTAL		75 1.3	3729 66.6	1778 31.8	13 0.2	5595 100.0

TABLE IV (CONTINUED)

MOS	COUNT ROW PCT COL PCT TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
Drafting, Surveying & Mapping	8.	0 0.0 0.0 0.0	5 62.5 0.1 0.1	3 37.5 0.2 0.1	0 0.0 0.0 0.0	8 0.1
Lithography	9.	0 0.0 0.0 0.0	8 80.0 0.2 0.1	2 20.0 0.1 0.0	0 0.0 0.0 0.0	10 0.2
Tank and Amphibian Tractor	10.	0 0.0 0.0 0.0	69 67.0 1.9 1.2	34 33.0 1.9 0.6	0 0.0 0.0 0.0	103 1.8
Armament Repair	11.	3 3.7 4.0 0.1	63 76.8 1.7 1.1	16 19.5 0.9 0.3	0 0.0 0.0 0.0	82 1.5
Ammunition & Explosive Ordnance Disposal	12.	0 0.0 0.0 0.0	18 90.0 0.5 0.3	2 10.0 0.1 0.0	0 0.0 0.0 0.0	20 0.4
Telecommunications Maintenance	15.	1 1.4 1.3 0.0	66 91.7 1.8 1.2	5 6.9 0.3 0.1	0 0.0 0.0 0.0	72 1.3
Supply Administration & Operations	16.	2 0.5 2.7 0.0	281 66.0 7.5 5.0	142 33.3 8.0 2.5	1 0.2 7.7 0.0	426 7.6
COLUMN TOTAL		75 1.3	3729 66.6	1778 31.8	13 0.2	5595 100.0

TABLE IV (CONTINUED)

MOS	COUNT / ROW PCT / COL PCT / TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
Transportation (freight & passenger)	17.	0 0.0 0.0 0.0	19 67.9 0.5 0.3	9 32.1 0.5 0.2	0 0.0 0.5 0.0	28 0.5
Repair Services (fabric & office machine)	18.	0 0.0 0.0 0.0	9 69.2 0.2 0.2	4 30.8 0.2 0.1	0 0.0 0.0 0.0	13 0.2
Food Services	19.	6 2.0 8.0 0.1	192 63.2 5.1 3.4	106 34.9 6.0 1.9	0 0.0 0.0 0.0	304 5.4
Auditing, Finance & Accounting	20.	0 0.0 0.0 0.0	13 76.5 0.3 0.2	4 23.5 0.2 0.1	0 0.0 0.0 0.0	17 0.3
Motor Transport	21.	3 0.4 4.0 0.1	493 71.8 13.2 8.8	188 27.4 10.6 3.4	3 0.4 23.1 0.1	687 12.3
Data Systems	22.	0 0.0 0.0 0.0	14 82.4 0.4 0.3	3 17.6 0.2 0.1	0 0.0 0.0 0.0	17 0.3
Marine Corps Exchange	23.	0 0.0 0.0 0.0	13 52.0 0.3 0.2	12 48.0 0.7 0.2	0 0.0 0.0 0.0	25 0.4
COLUMN TOTAL		75 1.3	3729 66.6	1778 31.8	13 0.2	5595 100.0

TABLE IV (CONTINUED)

MOS	COUNT / ROW PCT / COL PCT / TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
Public Affairs	24.	0 0.0 0.0 0.0	0 0.0 0.0 0.0	1 100.0 0.1 0.0	0 0.0 0.0 0.0	1 0.0
Legal Services	25.	0 0.0 0.0 0.0	1 50.0 0.0 0.0	1 50.0 0.1 0.0	0 0.0 0.0 0.0	2 0.0
Photography	26.	0 0.0 0.0 0.0	1 33.3 0.0 0.0	2 66.7 0.1 0.0	0 0.0 0.0 0.0	3 0.1
Training Support	27.	0 0.0 0.0 0.0	5 83.3 0.1 0.1	1 16.7 0.1 0.0	0 0.0 0.0 0.0	6 0.1
Band	28.	0 0.0 0.0 0.0	2 50.0 0.1 0.0	2 50.0 0.1 0.0	0 0.0 0.0 0.0	4 0.1
Nuclear, Biological & Chemical	29.	0 0.0 0.0 0.0	2 50.0 0.1 0.0	2 50.0 0.1 0.0	0 0.0 0.0 0.0	4 0.1
Military Police & Corrections	30.	1 3.6 1.3 0.0	16 57.1 0.4 0.3	11 39.3 0.6 0.2	0 0.0 0.0 0.0	28 0.5
COLUMN TOTAL		75 1.3	3729 66.6	1778 31.8	13 0.2	5595 100.0

TABLE IV (CONTINUED)

MOS	COUNT ROW PCT COL PCT TOT PCT	RACE				ROW TOTAL
		AMER IND 1.	CAUC 2.	NEGRO 4.	MALAY 5.	
Electronics Maintenance	31.	0 0.0 0.0 0.0	4 80.0 0.1 0.1	1 20.0 0.1 0.0	0 0.0 0.0 0.0	5 0.1
Aircraft Maintenance	32.	3 1.1 4.0 0.1	255 89.8 6.8 4.6	26 9.2 1.5 0.5	0 0.0 0.0 0.0	284 5.1
Aircraft Maintenance (Helicopter)	33.	0 0.0 0.0 0.0	27 87.1 0.7 0.5	4 12.9 0.2 0.1	0 0.0 0.0 0.0	31 0.6
Aviation Ordnance	34.	0 0.0 0.0 0.0	25 100.0 0.7 0.4	0 0.0 0.2 0.0	0 0.0 0.0 0.0	25 0.4
Avionics	35.	1 2.1 1.3 0.0	41 87.2 1.1 0.7	5 10.6 0.3 0.1	0 0.0 0.0 0.0	47 0.8
Weather Service	36.	0 0.0 0.0 0.0	2 100.0 0.1 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 0.0
Aviation Operations	37.	1 1.3 1.3 0.0	56 74.7 1.5 1.0	18 24.0 1.0 0.3	0 0.0 0.0 0.0	75 1.3
COLUMN TOTAL		75 1.3	3729 66.6	1778 31.8	13 0.2	5595 100.0

V. DISCUSSION

The computer programming was done in as straightforward a manner as possible to facilitate understanding. In addition, the programs were written in COBOL to enhance their readability.

Errors did exist in the TRS files in an individual's record. Entries were encountered indicating a Marine returning twice from UA without an entry indicating that he ever went to UA. Wherever possible, a conservative approach was taken when computing days lost and number of absences. The programming was not meant to be exhaustive. But every attempt was made to be as direct and logical as possible in considering the alternatives when an error situation was encountered.

Variables were coded and labeled as closely as possible to those given in the Marine Corps' Manpower Management System Codes Manual (MCO P1080.20D). Space limitations precluded use of the entire amount of information that is available on the personnel records; for example, the codes identifying the Marine's specific subordinate command were available but not used. In this instance, it was thought that the major command groupings (MCC's) were more useful.

The volume of output available from SPSS was fairly massive and time constraints did not allow for exhaustive analysis. Bound in a separate volume as Appendix E are the following computer runs:

A. CODEBOOK LISTINGS

1. CODEBOOK ..... entire UA population.

2. DESERTER ..... deserted one or more times.

3. RECIDIVIST ..... recidivist with two or more absences.

4. ONCEONLY ..... only one absence.

5. WHITES ..... Caucasian absences.

6. BLACKS ..... Negro absences.

7. INDIANS ..... American Indian absences.

B. CROSSTABULATION LISTINGS

1. CRSTABS ..... entire population by race.

2. RECIDXTB ..... recidivist (two or more absences) by race.

3. DESERXTB ..... deserters by race.

The codebook listings are the computer printout of the SPSS routine CODEBOOK for the Calendar Year 1974. It provides a listing of all variables encountered and their values together with frequency distributions. The following variables are displayed:

1. TOTALABS ..... total number of absences for the year.

2. UACTR ..... total number of absences less than 24 hours.

3. XDESERTB ..... number of incidents of desertion for the year.

4. MCC ..... major Marine commands.

5. RACE ..... race.

6. CITZNSHP ..... citizenship (U.S., alien, naturalized, etc.).

7. NATION ..... nationality.

8. SEX ..... sex.

9. AGE ..... age.

10. RANK ..... service rank.

11. TIG ..... time in grade (time in particular rank).

12. TIS ..... time in service (service longevity).

13. TOS ..... time on station (longevity at particular Marine installation).

14. MOS ..... military occupational specialty.

15. MOSBASIC ..... MOS training.

16. ASGCODE ..... comparison BILLET-MOS with MOS.

17. CIVEDUC ..... civilian education codes.

18. CIVEDUC1 ..... high school distribution.

19. GCT ..... General Classification Test scores.

20. AFQT ..... Armed Forces Qualification Test scores.

21. HORSTATE ..... distribution by state.

22. ENTRYCD ..... source of entry codes.

23. SPRANKCD ..... special rank codes for present grade.

24. COMBTSVC ..... combat service.

25. PAPCODE ..... personnel allocation plan codes.

26. DUSTAT ..... duty status codes.

27. STRCAT ..... strength category codes.

28. DULIM ..... duty limitation codes.

29. PROPAY ..... proficiency pay codes.

30. NODEPS ..... number of dependents.

31. COMP ..... component codes.

32. LENENL ..... length of enlistment.

33. LENABS1 ..... length of the first absence.

34. LENABS2 ..... length of the second absence.

35. LOSTTIME ..... total days of absence for the year.

36. AVGXUA ..... average time UA.

The crosstabulation listings are the computer printout of the SPSS routine CROSSTABS for the Calendar Year 1974. It provides a crosstabulation of all variables encountered and their values together with frequency distributions. The following variables were crosstabulated with RACE: TOTALABS, UACTR, SDESERTD, MCC, SEX, AGE, RANK, MOS, CIVEDUC, CIVEDUC1, HORSTATE and NODEPS.

VI. CONCLUSION

The main thrust of this research has been directed toward the development of the Transaction Retrieval System (TRS) as a usable resource for the analysis of absenteeism. Certainly the TRS files have yielded a wealth of information that can be of direct benefit to the Marine Corps. It was found, for example, that 60,120 incidents of UA were caused by 34,456 Marines with a recidivism rate of 40.5 percent. It was also found that these absences resulted in a loss to the Marine Corps of 2,230,033 man-days of service for 1974.

Examined in a preliminary way were a number of demographic variables for their relationship to absenteeism. The Statistical Package for the Social Sciences (SPSS) was the main computer program used in the data analysis and was extremely valuable for the clarity of its output. In regard to data analysis there is at least one major limitation on the information presented in this study and that is that no reference is made to the entire Marine Corps enlisted population. For example, results indicated 9.7 percent of the absentees were from California and 8 percent were from Ohio; these figures are limited in that their statistical significance is not known unless they are matched against Marine Corps enlistment percentages for those states.

With the personnel specifics in hand Corps-wide research can be more effectively conducted to replicate and/or test theories and hypothesis mentioned in the literature review.

For example, the overall racial mix between white and black offenders is 71.2 percent white and 27 percent black while the statistics for the infantry field indicate that 62.9 percent of the repeat offenders with two or more offenses of UA are white and 35.1 percent black. This would indicate an area for further research considering that approximately 35 percent of all absences occur within the infantry field. It is also suggested that a cost analysis be performed to more fully illuminate the importance of the UA problem.

APPENDIX A

A B S C O D E S P R O G R A M

```
IDENTIFICATION DIVISION.
PROGRAM-ID.      ABSCODES.
AUTHOR.          D J JENKINS, CAPT, USMC.
INSTALLATION.    NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIF.
DATE-WRITTEN.    APRIL 1975.
DATE-COMPILED.   APRIL 1975.
SECURITY.        UNCLASSIFIED.
REMARKS.         PROGRAM # 1 OF 4 CONCERNING UNAUTHORIZED
                 ABSENCE IN THE US MARINE CORPS.

ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER. IBM-360-67.
OBJECT-COMPUTER. IBM-360-67.
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT PERS-REC ASSIGN TO UT-S-TAPEIN.
    SELECT MASTER-LIST ASSIGN TO UT-S-TAPEOUT.

DATA DIVISION.
FILE SECTION.
FD  PERS-REC
    RECORD CONTAINS 240 CHARACTERS
    BLOCK CONTAINS 10 RECORDS
    LABEL RECORDS ARE STANDARD
    DATA RECORD IS PERS-FILE.

01  PERS-FILE.
    02  TCC                    PIC XX.
    02  FILLER                 PIC X(238).

FD  MASTER-LIST
    RECORD CONTAINS 240 CHARACTERS
    BLOCK CONTAINS 10 RECORDS
    LABEL RECORDS ARE STANDARD
    DATA RECORD IS STAT-REC.

01  STAT-REC                   PIC X(240).

PROCEDURE DIVISION.

BEGIN.
    OPEN INPUT PERS-REC, OUTPUT MASTER-LIST.
```

```
READ-AND-PROCESS.
    READ PERS-REC AT END GO TO FINISH.
    IF TCC = 'UA' OR TCC = 'U1' OR TCC = 'U5'
        OR TCC = 'U7' OR TCC = 'U9' OR TCC = 'R4'
        OR TCC = 'A7', MOVE PERS-FILE TO STAT-REC,
        WRITE STAT-REC, GO TO READ-AND-PROCESS.
    GO TO READ-AND-PROCESS.

FINISH.
    CLOSE PERS-REC WITH DISP.
    CLOSE MASTER-LIST.
    STOP RUN.
```

APPENDIX B

C O D E R U N P R O G R A M

```
IDENTIFICATION DIVISION.
PROGRAM-ID.      CODERUN.
AUTHOR.          D J JENKINS, CAPT, USMC.
INSTALLATION.    NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIF.
DATE-WRITTEN.    APRIL 1975.
DATE-COMPILED.   APRIL 1975.
SECURITY.        UNCLASSIFIED.
REMARKS.         PROGRAM # 3 OF 4 CONCERNING UNAUTHORIZED
                 ABSENCE IN THE US MARINE CORPS.

ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER. IBM-360-67.
OBJECT-COMPUTER. IBM-360-67.
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT PERS-REC ASSIGN TO UT-S-TAPEIN.
    SELECT MASTER-LIST ASSIGN TO UT-S-TAPEOUT.

DATA DIVISION.

FILE SECTION.
FD  PERS-REC
    RECORD CONTAINS 240 CHARACTERS
    BLOCK CONTAINS 10 RECORDS
    LABEL RECORDS ARE STANDARD
    DATA RECORD IS PERS-FILE.

01  PERS-FILE.
    02  TCC                    PIC XX.
    02  DATE                   PIC S9(7), COMP-3.
    02  FILLER                 PIC X.
    02  LEN-ENL                PIC X.
    02  RACE                   PIC X.
    02  SEX                    PIC X.
    02  SSAN                   PIC X(10).
    02  FILLER                 PIC XXX.
    02  DU-LIM                 PIC X.
    02  FILLER                 PIC XX.
    02  SP-RANK-CODE           PIC X.
    02  PRO-PAY                PIC X.
    02  FILLER                 PIC XX.
    02  E-CODE                 PIC X.
    02  RANK                   PIC X.
```

```
02  FILLER                  PIC X.
02  DATE-OF-RANK            PIC S9(7), COMP-3.
02  FILLER                  PIC X(10).
02  FIL-1                   PIC S9(7), COMP-3.
02  FILLER                  PIC X(4).
02  MOS                     PIC XX.
02  MOS-BASIC               PIC XX.
02  EAS                     PIC X(6).
02  FILLER                  PIC X(6).
02  DATE-OF-BIRTH           PIC S9(7), COMP-3.
02  FIL-2                   PIC S9(7), COMP-3.
02  FIL-3                   PIC S9(7), COMP-3.
02  DATE-CTB                PIC S9(7), COMP-3.
02  FILLER                  PIC X.
02  BILLET-MOS              PIC X(4).
02  RUC                     PIC X(5).
02  MCC                     PIC XXX.
02  FIL-4                   PIC S9(2), COMP-3.
02  ENTRY-CODE              PIC X.
02  FILLER                  PIC XXX.
02  COMPONENT               PIC X.
02  FILLER                  PIC X(5).
02  NO-DEPS                 PIC S99, COMP-3.
02  FILLER                  PIC X(4).
02  CIV-EDUC                PIC X.
02  CIV-EDUC-MS             PIC XX.
02  OLD-MCC                 PIC XXX.
02  COMBAT-SVC              PIC X.
02  FILLER                  PIC X.
02  HOR-COUNTY              PIC X(4).
02  HOR-STATE               PIC XX.
02  STRENGTH-CAT            PIC X.
02  ACDU-BD                 PIC S9(7), COMP-3.
02  FILLER                  PIC X(8).
02  PAP-CODE                PIC X.
02  DUTY-STATUS             PIC X.
02  FILLER                  PIC X(32).
02  FIL-5                   PIC S9(7), COMP-3.
02  FILLER                  PIC XXX.
02  CITIZENSHIP             PIC X.
02  NATION                  PIC XX.
02  FILLER                  PIC X(23).
02  EXT-TOT                 PIC XX.
02  FILLER                  PIC X.
02  EXT-CUR                 PIC XX.
02  TTC                     PIC XXX.
02  GCT                     PIC S9(2), COMP-3.
02  FILLER                  PIC XXX.
```

```
           02  AFQT                    PIC XX.
           02  FILLER                  PIC X(6).
           02  FIL-6                   PIC S9(7), COMP-3.
           02  FILLER                  PIC XXX.

       FD  MASTER-LIST
           RECORD CONTAINS 80 CHARACTERS
           BLOCK CONTAINS 30 RECORDS
           LABEL RECORDS ARE STANDARD
           DATA RECORD IS DISK-REC.

       01  DISK-REC                    PIC X(80).

       WORKING-STORAGE SECTION.

       77  COUNTER                     PIC 9(6), VALUE ZEROS.
       77  EXCLUSION-CTR               PIC 9(6), VALUE ZEROS.
       77  WS-MO-1                     PIC 99.
       77  TIG-1                       PIC 999.
       77  TOS-1                       PIC 999.
       77  TIS-1                       PIC 999.
       77  WS-BILLET-MOS               PIC X(4), VALUE ZEROS.

       01  WS-PERS-FILE.
           02  FILLER                  PIC X(6).
           02  WS-TCC                  PIC X.
           02  WS-DATE                 PIC 9(6).
           02  WS-CENTURY-DATE         PIC 9(5).
           02  WS-CENTURY-MONTH        PIC 9(3).
           02  WS-SSAN                 PIC 9(10).
           02  WS-RACE                 PIC X.
           02  WS-SEX                  PIC X.
           02  WS-RANK                 PIC X.
           02  WS-TIME-IN-GRADE        PIC 999.
           02  WS-SP-RANK-CODE         PIC X.
           02  WS-ENTRY-CODE           PIC X.
           02  WS-AGE                  PIC 99.
           02  WS-COMPONENT            PIC X.
           02  WS-CITIZENSHIP          PIC X.
           02  WS-NATION               PIC XX.
           02  WS-TIME-ON-STATION      PIC 999.
           02  WS-TIME-IN-SERVICE      PIC 999.
           02  WS-MOS                  PIC XX.
           02  WS-MOS-BASIC            PIC X.
           02  WS-ASG-CODE             PIC X.
           02  WS-PRO-PAY              PIC X.
           02  WS-NO-DEPS              PIC XX.
```

```
           02   WS-CIV-EDUC              PIC XX.
           02   WS-CIV-EDUC-MS           PIC X.
           02   WS-COMBAT-SVC            PIC X.
           02   WS-PAP-CODE              PIC XX.
           02   WS-DUTY-STATUS           PIC XX.
           02   WS-STRENGTH-CAT          PIC XX.
           02   WS-DU-LIM                PIC X.
           02   WS-GCT                   PIC 9(3).
           02   WS-AFQT                  PIC XX.
           02   WS-HOR-STATE             PIC XX.
           02   WS-MCC                   PIC XX.
           02   WS-LEN-ENL               PIC X.
           02   FILLER                   PIC X.

       01  WS-PMOS.
           02   WS-PMOS1                 PIC XX.
           02   WS-PMOS2                 PIC XX.

       01  WS-CENTURY-CODE               PIC 9(6).
       01  WS-CC REDEFINES WS-CENTURY-CODE.
           02   WS-YEAR                  PIC 99.
           02   WS-MONTH                 PIC 99.
           02   WS-DAY                   PIC 99.

       01  WS-DATE-OF-RANK               PIC 9(6).
       01  WS-DOR REDEFINES WS-DATE-OF-RANK.
           02   DOR-YEAR                 PIC 99.
           02   DOR-MO                   PIC 99.
           02   DOR-DAY                  PIC 99.

       01  WS-DATE-OF-BIRTH              PIC 9(6).
       01  WS-DOB REDEFINES WS-DATE-OF-BIRTH.
           02   DOB-YEAR                 PIC 99.
           02   DOB-MO                   PIC 99.
           02   DOB-DAY                  PIC 99.
       01  WS-ACDU-BD                    PIC 9(6).
       01  WS-ACDU REDEFINES WS-ACDU-BD.
           02   ACDU-YEAR                PIC 99.
           02   ACDU-MO                  PIC 99.
           02   ACDU-DAY                 PIC 99.

       01  WS-DATE-CTB                   PIC 9(6).
       01  WS-DCTB REDEFINES WS-DATE-CTB.
           02   CTB-YEAR                 PIC 99.
           02   CTB-MO                   PIC 99.
           02   CTB-DAY                  PIC 99.

       01  MONTH-VALUES.
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           02   JAN PIC 999, VALUE 000.
           02   FEB PIC 999, VALUE 031.
           02   MAR PIC 999, VALUE 059.
           02   APR PIC 999, VALUE 090.
           02   MAY PIC 999, VALUE 120.
           02   JUN PIC 999, VALUE 151.
           02   JUL PIC 999, VALUE 181.
           02   AUG PIC 999, VALUE 212.
           02   SEP PIC 999, VALUE 243.
           02   OCT PIC 999, VALUE 273.
           02   NOV PIC 999, VALUE 304.
           02   DEC PIC 999, VALUE 334.

       01   MONTH-TABLE REDEFINES MONTH-VALUES.
           02   WS-MO                    PIC 999, OCCURS 12 TIMES.

       PROCEDURE DIVISION.

       OPEN-FILES.
           OPEN INPUT PERS-REC, OUTPUT MASTER-LIST.

       MASS-MOVE.
           MOVE ZEROS TO WS-PERS-FILE.
           MOVE ZEROS TO WS-CENTURY-CODE.
           MOVE ZEROS TO WS-DATE-OF-RANK.
           MOVE ZEROS TO WS-DATE-OF-BIRTH.
           MOVE ZEROS TO WS-ACDU-BD.
           MOVE ZEROS TO WS-DATE-CTB.

           READ PERS-REC  AT END GO TO FINISH.
           IF E-CODE NOT = 'E', GO TO MASS-MOVE.

           IF TCC = 'UA', MOVE 'A' TO WS-TCC.
           IF TCC = 'U1', MOVE '1' TO WS-TCC.
           IF TCC = 'R4', MOVE '4' TO WS-TCC.
           IF TCC = 'U5', MOVE '5' TO WS-TCC.
           IF TCC = 'U7', MOVE '7' TO WS-TCC.
           IF TCC = 'A7', MOVE '8' TO WS-TCC.
           IF TCC = 'U9', MOVE '9' TO WS-TCC.

           MOVE DATE TO WS-DATE.
           MOVE DATE TO WS-CENTURY-CODE.
           MOVE SSAN TO WS-SSAN.
           MOVE NO-DEPS TO WS-NO-DEPS.

           IF RACE = 'A', MOVE '1' TO WS-RACE.
           IF RACE = 'C', MOVE '2' TO WS-RACE.
           IF RACE = 'M', MOVE '3' TO WS-RACE.
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IF RACE = 'N', MOVE '4' TO WS-RACE.
IF RACE = 'Z', MOVE '5' TO WS-RACE.
IF RACE NOT = 'A' AND RACE NOT = 'C'
    AND RACE NOT = 'M' AND RACE NOT = 'N'
    AND RACE NOT = 'Z', MOVE '6' TO WS-RACE.

IF SEX = 'M', MOVE '1' TO WS-SEX.
IF SEX = 'F', MOVE '2' TO WS-SEX.
IF SEX NOT = 'M' AND SEX NOT = 'F'
    MOVE '3' TO WS-SEX.

 IF SP-RANK-CODE = 'A', MOVE '1' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'B', MOVE '2' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'C', MOVE '3' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'D', MOVE '4' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'E', MOVE '5' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'I', MOVE '6' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'P', MOVE '7' TO WS-SP-RANK-CODE.
 IF SP-RANK-CODE = 'R', MOVE '8' TO WS-SP-RANK-CODE.
IF SP-RANK-CODE NOT = 'A' AND SP-RANK-CODE NOT = 'B',
    AND SP-RANK-CODE NOT = 'C', AND SP-RANK-CODE NOT = 'D',
    AND SP-RANK-CODE NOT = 'E', AND SP-RANK-CODE NOT = 'I',
    AND SP-RANK-CODE NOT = 'P', AND SP-RANK-CODE NOT = 'R',
    MOVE '9' TO WS-SP-RANK-CODE.

IF DU-LIM = '0', MOVE '1'  TO WS-DU-LIM.
IF DU-LIM = 'A', MOVE '2'  TO WS-DU-LIM.
IF DU-LIM = 'B', MOVE '3'  TO WS-DU-LIM.
IF DU-LIM = 'C', MOVE '4'  TO WS-DU-LIM.
IF DU-LIM = 'M', MOVE '5'  TO WS-DU-LIM.
IF DU-LIM = 'O', MOVE '6'  TO WS-DU-LIM.
IF DU-LIM = 'P', MOVE '7'  TO WS-DU-LIM.
IF DU-LIM = 'S', MOVE '8'  TO WS-DU-LIM.
IF DU-LIM NOT = '0', AND DU-LIM NOT = 'A',
    AND DJ-LIM NOT = 'B', AND DU-LIM NOT = 'C',
    AND DU-LIM NOT = 'M', AND DU-LIM NOT = 'O',
    AND DU-LIM NOT = 'P', AND DU-LIM NOT = 'S',
    MOVE '9' TO WS-DU-LIM.

IF STRENGTH-CAT = '0', MOVE '01' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = '1', MOVE '02' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = '2', MOVE '03' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = '3', MOVE '04' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = '4', MOVE '05' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = '5', MOVE '06' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'A', MOVE '07' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'B', MOVE '08' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'C', MOVE '09' TO WS-STRENGTH-CAT.
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IF STRENGTH-CAT = 'D', MOVE '10' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'E', MOVE '11' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'F', MOVE '12' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'G', MOVE '13' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'K', MOVE '14' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'L', MOVE '15' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'N', MOVE '16' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'P', MOVE '17' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'R', MOVE '18' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'S', MOVE '19' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'T', MOVE '20' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'U', MOVE '21' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'V', MOVE '22' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'W', MOVE '23' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'Y', MOVE '24' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT = 'Z', MOVE '25' TO WS-STRENGTH-CAT.
IF STRENGTH-CAT NOT = '0' AND STRENGTH-CAT NOT = '1',
    AND STRENGTH-CAT NOT = '2' AND STRENGTH-CAT NOT = '3',
    AND STRENGTH-CAT NOT = '4' AND STRENGTH-CAT NOT = '5',
    AND STRENGTH-CAT NOT = 'A' AND STRENGTH-CAT NOT = 'B',
    AND STRENGTH-CAT NOT = 'C' AND STRENGTH-CAT NOT = 'D',
    AND STRENGTH-CAT NOT = 'E' AND STRENGTH-CAT NOT = 'F',
    AND STRENGTH-CAT NOT = 'G' AND STRENGTH-CAT NOT = 'K',
    AND STRENGTH-CAT NOT = 'L' AND STRENGTH-CAT NOT = 'N',
    AND STRENGTH-CAT NOT = 'P' AND STRENGTH-CAT NOT = 'R',
    AND STRENGTH-CAT NOT = 'S' AND STRENGTH-CAT NOT = 'T',
    AND STRENGTH-CAT NOT = 'U' AND STRENGTH-CAT NOT = 'V',
    AND STRENGTH-CAT NOT = 'W' AND STRENGTH-CAT NOT = 'Y',
    AND STRENGTH-CAT NOT = 'Z',
    MOVE '26' TO WS-STRENGTH-CAT.

IF HOR-STATE IS NUMERIC, MOVE HOR-STATE TO WS-HOR-STATE,
    ELSE MOVE '52' TO WS-HOR-STATE.
IF WS-HOR-STATE > '52', MOVE '52' TO WS-HOR-STATE.

IF PAP-CODE = 'A', MOVE '01' TO WS-PAP-CODE.
IF PAP-CODE = 'B', MOVE '02' TO WS-PAP-CODE.
IF PAP-CODE = 'C', MOVE '03' TO WS-PAP-CODE.
IF PAP-CODE = 'E', MOVE '04' TO WS-PAP-CODE.
IF PAP-CODE = 'F', MOVE '05' TO WS-PAP-CODE.
IF PAP-CODE = 'G', MOVE '06' TO WS-PAP-CODE.
IF PAP-CODE = 'H', MOVE '07' TO WS-PAP-CODE.
IF PAP-CODE = 'I', MOVE '08' TO WS-PAP-CODE.
IF PAP-CODE = 'J', MOVE '09' TO WS-PAP-CODE.
IF PAP-CODE = 'K', MOVE '10' TO WS-PAP-CODE.
IF PAP-CODE = 'L', MOVE '11' TO WS-PAP-CODE.
IF PAP-CODE = 'S', MOVE '12' TO WS-PAP-CODE.
IF PAP-CODE = 'X', MOVE '13' TO WS-PAP-CODE.
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IF  PAP-CODE  =  '2', MOVE '14' TO WS-PAP-CODE.
IF  PAP-CODE  =  'N', MOVE '15' TO WS-PAP-CODE.
IF  PAP-CODE  =  'M', MOVE '16' TO WS-PAP-CODE.
IF  PAP-CODE  =  'R', MOVE '17' TO WS-PAP-CODE.
IF  PAP-CODE  =  'Q', MOVE '18' TO WS-PAP-CODE.
IF  PAP-CODE  =  'T', MOVE '19' TO WS-PAP-CODE.
IF  PAP-CODE  =  'U', MOVE '20' TO WS-PAP-CODE.
IF  PAP-CODE  =  'V', MOVE '21' TO WS-PAP-CODE.
IF  PAP-CODE  =  'W', MOVE '22' TO WS-PAP-CODE.
IF  PAP-CODE  =  'Y', MOVE '23' TO WS-PAP-CODE.
IF  PAP-CODE  =  'Z', MOVE '24' TO WS-PAP-CODE.
IF  PAP-CODE  =  '6', MOVE '25' TO WS-PAP-CODE.
IF  PAP-CODE  =  '7', MOVE '26' TO WS-PAP-CODE.
IF  PAP-CODE  =  '8', MOVE '27' TO WS-PAP-CODE.
IF  PAP-CODE  =  '9', MOVE '28' TO WS-PAP-CODE.
IF  PAP-CODE  NOT  =  'A', AND PAP-CODE NOT = 'B',
    AND  PAP-CODE NOT = 'C' AND PAP-CODE NOT = 'E',
    AND  PAP-CODE NOT = 'F' AND PAP-CODE NOT = 'G',
    AND  PAP-CODE NOT = 'H' AND PAP-CODE NOT = 'I',
    AND  PAP-CODE NOT = 'J' AND PAP-CODE NOT = 'K',
    AND  PAP-CODE NOT = 'L' AND PAP-CODE NOT = 'S',
    AND  PAP-CODE NOT = 'X' AND PAP-CODE NOT = '2',
    AND  PAP-CODE NOT = 'N' AND PAP-CODE NOT = 'M',
    AND  PAP-CODE NOT = 'R' AND PAP-CODE NOT = 'Q',
    AND  PAP-CODE NOT = 'T' AND PAP-CODE NOT = 'U',
    AND  PAP-CODE NOT = 'V' AND PAP-CODE NOT = 'W',
    AND  PAP-CODE NOT = 'Y' AND PAP-CODE NOT = 'Z',
    AND  PAP-CODE NOT = '6' AND PAP-CODE NOT = '7',
    AND  PAP-CODE NOT = '8' AND PAP-CODE NOT = '9',
    MOVE '29' TO WS-PAP-CODE.

IF  CIV-EDUC  =  '1', MOVE '01' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '2', MOVE '02' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '3', MOVE '03' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '4', MOVE '04' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '5', MOVE '05' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '6', MOVE '06' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '7', MOVE '07' TO WS-CIV-EDUC.
IF  CIV-EDJC  =  '8', MOVE '08' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  '9', MOVE '09' TO WS-CIV-EDUC.
IF  CIV-EDUC  =  'M', MOVE '10' TO WS-CIV-EDUC.
IF  CIV-EDJC  NOT  =  '1' AND CIV-EDJC NOT = '2',
    AND  CIV-EDUC NOT = '3' AND CIV-EDUC NOT = '4',
    AND  CIV-EDUC NOT = '5' AND CIV-EDUC NOT = '6',
    AND  CIV-EDUC NOT = '7' AND CIV-EDUC NOT = '8',
    AND  CIV-EDUC NOT = '9' AND CIV-EDUC NOT = 'M',
    MOVE '11' TO WS-CIV-EDUC.
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IF CIV-EDUC-MS = '07', MOVE '1' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '08', MOVE '2' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '09', MOVE '3' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '10', MOVE '4' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '11', MOVE '5' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '12', MOVE '6' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS = '99', MOVE '7' TO WS-CIV-EDUC-MS.
IF CIV-EDUC-MS NOT = '07' AND CIV-EDUC-MS NOT = '08'
    AND CIV-EDUC-MS NOT = '09' AND CIV-EDUC-MS NOT = '10'
    AND CIV-EDUC-MS NOT = '11' AND CIV-EDUC-MS NOT = '12'
    AND CIV-EDUC-MS NOT = '99', MOVE '8' TO WS-CIV-EDUC-MS.

IF WS-CIV-EDUC NOT = '01', MOVE '9' TO WS-CIV-EDUC-MS.

IF COMBAT-SVC = '0', MOVE '1' TO WS-COMBAT-SVC.
IF COMBAT-SVC = '5', MOVE '2' TO WS-COMBAT-SVC.
IF COMBAT-SVC = '9', MOVE '3' TO WS-COMBAT-SVC.
IF COMBAT-SVC = 'A', MOVE '4' TO WS-COMBAT-SVC.
IF COMBAT-SVC = 'E', MOVE '5' TO WS-COMBAT-SVC.
IF COMBAT-SVC NOT = '0' AND COMBAT-SVC NOT = '5',
    AND COMBAT-SVC NOT = '9', AND COMBAT-SVC NOT = 'A',
    AND COMBAT-SVC NOT = 'E', MOVE '6' TO WS-COMBAT-SVC.

IF PRO-PAY = '0', MOVE '1' TO WS-PRO-PAY
    ELSE MOVE '2' TO WS-PRO-PAY.

IF ENTRY-CODE = 'A', MOVE '1' TO WS-ENTRY-CODE.
IF ENTRY-CODE = 'B', MOVE '2' TO WS-ENTRY-CODE.
IF ENTRY-CODE = 'C', MOVE '3' TO WS-ENTRY-CODE.
IF ENTRY-CODE NOT = 'A' AND ENTRY-CODE NOT = 'B'
    AND ENTRY-CODE NOT = 'C' MOVE '4' TO WS-ENTRY-CODE.

IF COMPONENT = '1', MOVE '1' TO WS-COMPONENT.
IF COMPONENT = '2', MOVE '2' TO WS-COMPONENT.
IF COMPONENT = 'A', MOVE '3' TO WS-COMPONENT.
IF COMPONENT = 'B', MOVE '4' TO WS-COMPONENT.
IF COMPONENT = 'C' OR COMPONENT = 'K',
    MOVE '5' TO WS-COMPONENT.
IF COMPONENT NOT = '1' AND COMPONENT NOT = '2'
    AND COMPONENT NOT = 'A' AND COMPONENT NOT = 'B'
    AND COMPONENT NOT = 'C' AND COMPONENT NOT = 'K'
    MOVE '6' TO WS-COMPONENT.

IF DUTY-STATUS = '1', MOVE '01' TO WS-DUTY-STATUS.
IF DUTY-STATUS = '2', MOVE '02' TO WS-DUTY-STATUS.
IF DUTY-STATUS = '3', MOVE '03' TO WS-DUTY-STATUS.
IF DUTY-STATUS = '4', MOVE '04' TO WS-DUTY-STATUS.
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IF DUTY-STATUS = '5', MOVE '05' TO WS-DUTY-STATUS.
IF DUTY-STATUS = '6', MOVE '06' TO WS-DUTY-STATUS.
IF DUTY-STATUS = '8', MOVE '07' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'A', MOVE '08' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'I', MOVE '09' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'J', MOVE '10' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'K', MOVE '11' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'L', MOVE '12' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'R', MOVE '13' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'S', MOVE '14' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'W', MOVE '15' TO WS-DUTY-STATUS.
IF DUTY-STATUS = 'Y', MOVE '16' TO WS-DUTY-STATUS.
IF DUTY-STATUS NOT = '1' AND DUTY-STATUS NOT = '2',
    AND DUTY-STATUS NOT = '3', AND DUTY-STATUS NOT = '4',
    AND DUTY-STATUS NOT = '5', AND DUTY-STATUS NOT = '6',
    AND DUTY-STATUS NOT = '8', AND DUTY-STATUS NOT = 'A',
    AND DUTY-STATUS NOT = 'I', AND DUTY-STATUS NOT = 'J',
    AND DUTY-STATUS NOT = 'K', AND DUTY-STATUS NOT = 'L',
    AND DUTY-STATUS NOT = 'R', AND DUTY-STATUS NOT = 'S',
    AND DUTY-STATUS NOT = 'W', AND DUTY-STATUS NOT = 'Y',
    MOVE '17' TO WS-DUTY-STATUS.

IF CITIZENSHIP = 'A', MOVE '1' TO WS-CITIZENSHIP.
IF CITIZENSHIP = 'B', MOVE '2' TO WS-CITIZENSHIP.
IF CITIZENSHIP = 'N', MOVE '3' TO WS-CITIZENSHIP.
IF CITIZENSHIP = 'R', MOVE '4' TO WS-CITIZENSHIP.
IF CITIZENSHIP NOT = 'A' AND CITIZENSHIP NOT = 'B',
    AND CITIZENSHIP NOT = 'N', AND CITIZENSHIP NOT = 'R',
    MOVE '5' TO WS-CITIZENSHIP.

IF NATION = 'AT', MOVE '01' TO WS-NATION.
IF NATION = 'BL', MOVE '02' TO WS-NATION.
IF NATION = 'BM', MOVE '03' TO WS-NATION.
IF NATION = 'BR', MOVE '04' TO WS-NATION.
IF NATION = 'CB', MOVE '05' TO WS-NATION.
IF NATION = 'CN', MOVE '06' TO WS-NATION.
IF NATION = 'GU', MOVE '07' TO WS-NATION.
IF NATION = 'IS', MOVE '08' TO WS-NATION.
IF NATION = 'JA', MOVE '09' TO WS-NATION.
IF NATION = 'KS', MOVE '10' TO WS-NATION.
IF NATION = 'MK', MOVE '11' TO WS-NATION.
IF NATION = 'MX', MOVE '12' TO WS-NATION.
IF NATION = 'PI', MOVE '13' TO WS-NATION.
IF NATION = 'PN', MOVE '14' TO WS-NATION.
IF NATION = 'PR', MOVE '15' TO WS-NATION.
IF NATION = 'PZ', MOVE '16' TO WS-NATION.
IF NATION = 'SO', MOVE '17' TO WS-NATION.
IF NATION = 'TH', MOVE '18' TO WS-NATION.
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IF NATION = 'TW', MOVE '19' TO WS-NATION.
IF NATION = 'UK', MOVE '20' TO WS-NATION.
IF NATION = 'US', MOVE '21' TO WS-NATION.
IF NATION = 'VS', MOVE '22' TO WS-NATION.
IF NATION = 'VU', MOVE '23' TO WS-NATION.
IF NATION NOT = 'AT' AND NATION NOT = 'BL'
    AND NATION NOT = 'BM' AND NATION NOT = 'BR'
    AND NATION NOT = 'CB' AND NATION NOT = 'CN'
    AND NATION NOT = 'GU' AND NATION NOT = 'IS'
    AND NATION NOT = 'JA' AND NATION NOT = 'KS'
    AND NATION NOT = 'MK' AND NATION NOT = 'MX'
    AND NATION NOT = 'PI' AND NATION NOT = 'PN'
    AND NATION NOT = 'PR' AND NATION NOT = 'PZ'
    AND NATION NOT = 'SO' AND NATION NOT = 'TH'
    AND NATION NOT = 'TW' AND NATION NOT = 'UK'
    AND NATION NOT = 'US' AND NATION NOT = 'VS'
    AND NATION NOT = 'VU', MOVE '24' TO WS-NATION.

IF MCC = '010', MOVE '01' TO WS-MCC.
IF MCC = '012', MOVE '02' TO WS-MCC.
IF MCC = '013', MOVE '03' TO WS-MCC.
IF MCC = '014', MOVE '04' TO WS-MCC.
IF MCC = '015', MOVE '05' TO WS-MCC.
IF MCC = '016', MOVE '06' TO WS-MCC.
IF MCC = '017', MOVE '07' TO WS-MCC.
IF MCC = '018', MOVE '08' TO WS-MCC.
IF MCC = '019', MOVE '09' TO WS-MCC.
IF MCC = '022', MOVE '10' TO WS-MCC.
IF MCC = '023', MOVE '11' TO WS-MCC.
IF MCC = '044', MOVE '12' TO WS-MCC.
IF MCC = '045', MOVE '13' TO WS-MCC.
IF MCC = '055', MOVE '14' TO WS-MCC.
IF MCC = '091', MOVE '15' TO WS-MCC.
IF MCC = '092', MOVE '16' TO WS-MCC.
IF MCC = '110', MOVE '17' TO WS-MCC.
IF MCC = '111', MOVE '18' TO WS-MCC.
IF MCC = '121', MOVE '19' TO WS-MCC.
IF MCC = '122', MOVE '20' TO WS-MCC.
IF MCC = '124', MOVE '21' TO WS-MCC.
IF MCC = '130', MOVE '22' TO WS-MCC.
IF MCC = '142', MOVE '23' TO WS-MCC.
IF MCC = '143', MOVE '24' TO WS-MCC.
IF MCC = '145', MOVE '25' TO WS-MCC.
IF MCC = '147', MOVE '26' TO WS-MCC.
IF MCC = '150', MOVE '27' TO WS-MCC.
IF MCC = '151', MOVE '28' TO WS-MCC.
IF MCC = '169', MOVE '29' TO WS-MCC.
IF MCC = '197', MOVE '30' TO WS-MCC.
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IF MCC = '1C2', MOVE '31' TO WS-MCC.

IF MCC NOT = '010' AND MCC NOT = '012' AND MCC NOT = '013',
    AND MCC NOT = '014' AND MCC NOT = '015',
    AND MCC NOT = '016' AND MCC NOT = '017',
    AND MCC NOT = '018' AND MCC NOT = '019',
    AND MCC NOT = '022' AND MCC NOT = '023',
    AND MCC NOT = '044' AND MCC NOT = '045',
    AND MCC NOT = '055' AND MCC NOT = '091',
    AND MCC NOT = '092' AND MCC NOT = '110',
    AND MCC NOT = '111' AND MCC NOT = '121',
    AND MCC NOT = '122' AND MCC NOT = '124',
    AND MCC NOT = '130' AND MCC NOT = '142',
    AND MCC NOT = '143' AND MCC NOT = '145',
    AND MCC NOT = '147' AND MCC NOT = '150',
    AND MCC NOT = '151' AND MCC NOT = '169',
    AND MCC NOT = '197' AND MCC NOT = '1C2',
    MOVE '32' TO WS-MCC.

IF MOS = '01', MOVE '01' TO WS-MOS.
IF MOS = '02', MOVE '02' TO WS-MOS.
IF MOS = '03', MOVE '03' TO WS-MOS.
IF MOS = '04', MOVE '04' TO WS-MOS.
IF MOS = '08', MOVE '05' TO WS-MOS.
IF MOS = '11', MOVE '06' TO WS-MOS.
IF MOS = '13', MOVE '07' TO WS-MOS.
IF MOS = '14', MOVE '08' TO WS-MOS.
IF MOS = '15', MOVE '09' TO WS-MOS.
IF MOS = '18', MOVE '10' TO WS-MOS.
IF MOS = '21', MOVE '11' TO WS-MOS.
IF MOS = '23', MOVE '12' TO WS-MOS.
IF MOS = '25', MOVE '13' TO WS-MOS.
IF MOS = '26', MOVE '14' TO WS-MOS.
IF MOS = '28', MOVE '15' TO WS-MOS.
IF MOS = '30', MOVE '16' TO WS-MOS.
IF MOS = '31', MOVE '17' TO WS-MOS.
IF MOS = '32', MOVE '18' TO WS-MOS.
IF MOS = '33', MOVE '19' TO WS-MOS.
IF MOS = '34', MOVE '20' TO WS-MOS.
IF MOS = '35', MOVE '21' TO WS-MOS.
IF MOS = '40', MOVE '22' TO WS-MOS.
IF MOS = '41', MOVE '23' TO WS-MOS.
IF MOS = '43', MOVE '24' TO WS-MOS.
IF MOS = '44', MOVE '25' TO WS-MOS.
IF MOS = '46', MOVE '26' TO WS-MOS.
IF MOS = '49', MOVE '27' TO WS-MOS.
IF MOS = '55', MOVE '28' TO WS-MOS.
IF MOS = '57', MOVE '29' TO WS-MOS.
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```
IF MOS = '58', MOVE '30' TO WS-MOS.
IF MOS = '59', MOVE '31' TO WS-MOS.
IF MOS = '60', MOVE '32' TO WS-MOS.
IF MOS = '61', MOVE '33' TO WS-MOS.
IF MOS = '65', MOVE '34' TO WS-MOS.
IF MOS = '66', MOVE '35' TO WS-MOS.
IF MOS = '68', MOVE '36' TO WS-MOS.
IF MOS = '70', MOVE '37' TO WS-MOS.
IF MOS = '71', MOVE '38' TO WS-MOS.
IF MOS = '72', MOVE '39' TO WS-MOS.
IF MOS = '73', MOVE '40' TO WS-MOS.
IF MOS NOT = '01' AND MOS NOT = '02'
    AND MOS NOT = '03' AND MOS NOT = '04'
    AND MOS NOT = '08' AND MOS NOT = '11'
    AND MOS NOT = '13' AND MOS NOT = '14'
    AND MOS NOT = '15' AND MOS NOT = '18'
    AND MOS NOT = '21' AND MOS NOT = '23'
    AND MOS NOT = '26' AND MOS NOT = '28'
    AND MOS NOT = '30' AND MOS NOT = '31'
    AND MOS NOT = '32' AND MOS NOT = '33'
    AND MOS NOT = '34' AND MOS NOT = '35'
    AND MOS NOT = '40' AND MOS NOT = '41'
    AND MOS NOT = '43' AND MOS NOT = '44'
    AND MOS NOT = '46' AND MOS NOT = '49'
    AND MOS NOT = '55' AND MOS NOT = '57'
    AND MOS NOT = '58' AND MOS NOT = '59'
    AND MOS NOT = '60' AND MOS NOT = '61'
    AND MOS NOT = '65' AND MOS NOT = '66'
    AND MOS NOT = '68' AND MOS NOT = '70'
    AND MOS NOT = '71' AND MOS NOT = '72'
    AND MOS NOT = '73',  MOVE '41' TO WS-MOS.

IF MOS-BASIC = '00', MOVE '1' TO WS-MOS-BASIC
    ELSE MOVE '2' TO WS-MOS-BASIC.

MOVE MOS TO WS-PMOS1.
MOVE MOS-BASIC TO WS-PMOS2.
MOVE BILLET-MOS TO WS-BILLET-MOS.
IF WS-PMOS = WS-BILLET-MOS, MOVE 1 TO WS-ASG-CODE.
MOVE ZEROS TO WS-PMOS.
MOVE ZEROS TO WS-BILLET-MOS.

MOVE RANK TO WS-RANK.
MOVE DATE-OF-RANK TO WS-DATE-OF-RANK.
MOVE LEN-ENL TO WS-LEN-ENL.
MOVE DATE-OF-BIRTH TO WS-DATE-OF-BIRTH.
MOVE DATE-CTB TO WS-DATE-CTB.
```

```
           MOVE ACDU-BD TO WS-ACDU-BD.
           MOVE GCT TO WS-GCT.
           MOVE AFQT TO WS-AFQT.
           GO TO DATE-CALCULATE.

       DATE-CALCULATE.

           MULTIPLY WS-YEAR BY 365 GIVING WS-CENTURY-DATE.
           ADD WS-MO (WS-MONTH) TO WS-CENTURY-DATE.
           ADD WS-DAY TO WS-CENTURY-DATE.

           IF WS-CENTURY-DATE < 27011 OR WS-CENTURY-DATE > 27375,
               ADD 1 TO EXCLUSION-CTR, GO TO MASS-MOVE.

           MULTIPLY WS-YEAR BY 12 GIVING WS-CENTURY-MONTH.
           ADD WS-MONTH TO WS-CENTURY-MONTH.

           MULTIPLY DOR-YEAR BY 12 GIVING TIG-1.
           ADD DOR-MO TO TIG-1.
           SUBTRACT TIG-1 FROM WS-CENTURY-MONTH GIVING WS-TIME-IN-GRADE.
           IF WS-TIME-IN-GRADE > '072', MOVE '99' TO WS-TIME-IN-GRADE.

           SUBTRACT DOB-YEAR FROM WS-YEAR GIVING WS-AGE.
           IF WS-AGE > '40', MOVE '99' TO WS-AGE.

           MULTIPLY CTB-YEAR BY 12 GIVING TOS-1.
           ADD CTB-MO     TO TOS-1.
           SUBTRACT TOS-1 FROM WS-CENTURY-MONTH GIVING
               WS-TIME-ON-STATION.
           IF WS-TIME-ON-STATION > '072',
               MOVE '99' TO WS-TIME-ON-STATION.

           MULTIPLY ACDU-YEAR BY 12 GIVING TIS-1.
           ADD ACDU-MO TO TIS-1.
           SUBTRACT TIS-1 FROM WS-CENTURY-MONTH GIVING
               WS-TIME-IN-SERVICE.
           IF WS-TIME-IN-SERVICE > '096',
               MOVE '99' TO WS-TIME-IN-SERVICE.

           GO TO WRAP-UP.

       WRAP-UP.

           WRITE DISK-REC FROM WS-PERS-FILE.
           COMPUTE COUNTER = COUNTER + 1.
           GO TO MASS-MOVE.

       FINISH.
```

```
EXHIBIT NAMED COUNTER.
EXHIBIT NAMED EXCLUSION-CTR.
CLOSE PERS-REC WITH DISP.
CLOSE MASTER-LIST WITH DISP.
STOP RUN.
```

APPENDIX C

S S A N S O R T P R O G R A M

```
//        EXEC  PGM=IERRCOOO,REGION=200K,PARM='CORE=150000'
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SORTPR   DD  SYSOUT=A,SPACE=(TRK,(5,0))
//SORTWK01 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL1
//SORTWK02 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL2
//SORTWK03 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL3
//SORTWK04 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL1
//SORTWK05 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL2
//SORTWK06 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL3
//SORTWK07 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL1
//SORTWK08 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL2
//SORTWK09 DD  UNIT=SYSDA,SPACE=(TRK,(250),,CONTIG),VOL=SER=SPOOL3
//SORTIN   DD  DISP=(OLD,KEEP),UNIT=3400-4,VOL=SER=NPS253,
//             DCB=(RECFM=FB,BLKSIZE=2400,LRECL=80,DEN=2),
//             DSNAME=AP71.C1790.STDP7406,LABEL=(,SL)
//         DD  DISP=(OLD,KEEP),UNIT=AFF=SORTIN,
//             VOL=SER=NPS310,DSNAME=AP71.C1790.STATCY74,
//             DCB=(RECFM=FB,BLKSIZE=2400,LRECL=80,DEN=2),LABEL=(,SL)
//SORTOUT  DD  DISP=(NEW,KEEP),UNIT=AFF=SORTIN,VOL=SER=NPS313,
//             DCB=(RECFM=FB,BLKSIZE=2400,LRECL=80,DEN=2),
//             DSNAME=SORTED.AP71.C1790.STATCY74
//SYSIN    DD  *
  SORT FIELDS=(22,10,BI,A,14,5,BI,A,7,1,BI,A),SIZE=E52000
```

APPENDIX D

A B S E N T E E P R O G R A M

```
IDENTIFICATION DIVISION.
PROGRAM-ID.          ABSENTEE.
AUTHOR.              D J JENKINS, CAPT, USMC.
INSTALLATION.        NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIF.
DATE-WRITTEN.        APRIL 1975.
DATE-COMPILED.       APRIL 1975.
SECURITY.            UNCLASSIFIED.
REMARKS.             PROGRAM # 4 OF 4 CONCERNING UNAUTHORIZED
                     ABSENCE IN THE US MARINE CORPS.

ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER. IBM-360-67.
OBJECT-COMPUTER. IBM-360-67.
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT PERS-REC ASSIGN TO UT-S-TAPEIN.
    SELECT MASTER-LIST ASSIGN TO UT-S-TAPEOUT.

DATA DIVISION.
FILE SECTION.
FD  PERS-REC
    RECORD CONTAINS 80 CHARACTERS
    BLOCK CONTAINS 30 RECORDS
    LABEL RECORDS ARE STANDARD
    DATA RECORD IS PERS-FILE.

01  PERS-FILE.
    02  FILLER                  PIC X(6).
    02  TCC                     PIC X.
    02  DATE                    PIC 9(6).
    02  CENTURY-DATE            PIC 9(5).
    02  CENTURY-MONTH           PIC 9(3).
    02  SSAN                    PIC 9(10).
    02  RACE                    PIC X.
    02  SEX                     PIC X.
    02  RANK                    PIC X.
    02  TIME-IN-GRADE           PIC 999.
    02  SP-RANK-CODE            PIC X.
    02  ENTRY-CODE              PIC X.
    02  AGE                     PIC 99.
    02  COMPONENT               PIC X.
    02  CITIZENSHIP             PIC X.
    02  NATIONALITY             PIC XX.
```

```
           02   TIME-ON-STATION          PIC 999.
           02   TIME-IN-SERVICE          PIC 999.
           02   MOS                      PIC XX.
           02   MOS-BASIC                PIC X.
           02   ASG-CODE                 PIC X.
           02   PRO-PAY                  PIC X.
           02   NO-DEPS                  PIC XX.
           02   CIV-EDUC                 PIC XX.
           02   CIV-EDUC-MS              PIC X.
           02   COMBAT-SVC               PIC X.
           02   PAP-CODE                 PIC XX.
           02   DUTY-STATUS              PIC XX.
           02   STRENGTH-CAT             PIC XX.
           02   DU-LIM                   PIC X.
           02   GCT                      PIC 9(3).
           02   AFQT                     PIC XX.
           02   HOR-STATE                PIC XX.
           02   MCC                      PIC XX.
           02   LEN-ENL                  PIC X.
           02   FILLER                   PIC X.

09     FD   MASTER-LIST
           RECORD CONTAINS 80 CHARACTERS
           BLOCK CONTAINS 30 RECORDS
           LABEL RECORDS ARE STANDARD
           DATA RECORD IS MASTER-REC.
       01   MASTER-REC                   PIC X(80).

       WORKING-STORAGE SECTION.
       77   COUNTER                      PIC 9(6), VALUE ZEROS.
       77   TOTAL-NO-UAS                 PIC 9(6), VALUE ZEROS.
       77   UA-CTR                       PIC 9(6), VALUE ZEROS.
       77   ERROR-1-CTR                  PIC 9(5), VALUE ZEROS.
       77   ERROR-2-CTR                  PIC 9(4), VALUE ZEROS.
       77   ERROR-3-CTR                  PIC 9(4), VALUE ZEROS.
       77   ERROR-4-CTR                  PIC 9(5), VALUE ZEROS.
       77   ERROR-5-CTR                  PIC 9(4), VALUE ZEROS.
       77   DUPE-REC                     PIC 9(5), VALUE ZEROS.
       77   EXCUSED-ABS-1-CTR            PIC 9(4), VALUE ZEROS.
       77   EXCUSED-ABS-2-CTR            PIC 9(4), VALUE ZEROS.
       77   TIME-ABSENT                  PIC 9(3), VALUE ZEROS.
       77   EOJ                          PIC 9, VALUE ZERO.
       77   TOT-DAYS-UA                  PIC 9(3), VALUE ZEROS.
       77   USMC-DAYS-LOST               PIC 9(8), VALUE ZEROS.
       77   USMC-AVG-LEN-UA              PIC 9(3), VALUE ZEROS.

       01   LENABS.
            02   LEN-ABS-3               PIC 999.
```

```
    02  LEN-ABS-4              PIC 999.
    02  LEN-ABS-5              PIC 999.
    02  LEN-ABS-6              PIC 999.
    02  LEN-ABS-7              PIC 999.
    02  LEN-ABS-8              PIC 999.
    02  LEN-ABS-9              PIC 999.
    02  LEN-ABS-10             PIC 999.

01  WS-1.
    02  WS-1-TCC               PIC X.
    02  WS-1-CENTURY-DATE      PIC 9(5).
    02  WS-1-SSAN              PIC X(10).

01  WS-2.
    02  WS-2-TCC               PIC X.
    02  WS-2-CENTURY-DATE      PIC 9(5).
    02  WS-2-SSAN              PIC X(10).

01  OUT-REC.
    02  TOTAL-ABS              PIC 99.
    02  UACTR                  PIC 99.
    02  X-DESERTED             PIC 9.
    02  MCC                    PIC XX.
    02  RACE                   PIC X.
    02  CITIZENSHIP            PIC X.
    02  NATIONALITY            PIC XX.
    02  SEX                    PIC X.
    02  AGE                    PIC 99.
    02  RANK                   PIC X.
    02  TIME-IN-GRADE          PIC 999.
    02  TIME-IN-SERVICE        PIC 999.
    02  TIME-ON-STATION        PIC 999.
    02  MOS                    PIC XX.
    02  MOS-BASIC              PIC X.
    02  ASG-CODE               PIC X.
    02  CIV-EDUC               PIC XX.
    02  CIV-EDUC-MS            PIC X.
    02  GCT                    PIC 9(3).
    02  AFQT                   PIC XX.
    02  HOR-STATE              PIC XX.
    02  SP-RANK-CODE           PIC X.
    02  ENTRY-CODE             PIC X.
    02  COMBAT-SVC             PIC X.
    02  PAP-CODE               PIC XX.
    02  DUTY-STATUS            PIC XX.
    02  STRENGTH-CAT           PIC XX.
    02  DU-LIM                 PIC X.
    02  PRO-PAY                PIC X.
```

```
           02  NO-DEPS                 PIC XX.
           02  COMPONENT               PIC X.
           02  LEN-ENL                 PIC X.
           02  LEN-ABS-1               PIC 999.
           02  LEN-ABS-2               PIC 999.
           02  LOST-TIME               PIC 9(3).
           02  AVG-TIME-UA             PIC 9(3).
           02  SSAN-OR                 PIC X(10).
           02  FILLER                  PIC X(5).

       PROCEDURE DIVISION.
       OPEN-FILES.
           OPEN INPUT PERS-REC, OUTPUT MASTER-LIST.

       NEW-RECORD.
           READ PERS-REC AT END GO TO FINISH.
           GO TO START-1.

       START-1.
           IF TCC = '1' OR TCC = '4' GO TO START-U1.
           IF TCC = 'A' GO TO START-UA.
           GO TO NEW-RECORD.

       START-U1.
           MOVE ZEROS TO WS-2.
           MOVE ZEROS TO OUT-REC.
           MOVE CORR PERS-FILE TO OUT-REC.
           MOVE SSAN TO SSAN-OR.
           MOVE TCC TO WS-2-TCC.
           MOVE CENTURY-DATE TO WS-2-CENTURY-DATE.
           MOVE SSAN TO WS-2-SSAN.
           IF TCC = '4', GO TO DESERTER.
           GO TO READ-1.

       READ-1.
           READ PERS-REC AT END GO TO WRAP-UP.
           IF SSAN NOT = WS-2-SSAN, GO TO UPDATE-WRITE-1.
           IF  TCC = WS-2-TCC AND CENTURY-DATE = WS-2-CENTURY-DATE
               ADD 1 TO DUPE-REC, GO TO READ-1.
           IF TCC = '4', GO TO DESERTER.
           IF TCC = '5' OR TCC = '8'
               MOVE ZEROS TO WS-1,
               MOVE TCC TO WS-1-TCC,
               MOVE CENTURY-DATE TO WS-1-CENTURY-DATE,
               GO TO READ-3.
           IF TCC = '7' OR TCC = '9', GO TO EXCUSED-ABS-1.
           IF TCC = '1' OR TCC = 'A', GO TO ERROR-1.
```

```
READ-3.
    READ PERS-REC AT END GO TO WRAP-UP.
    IF SSAN NOT = WS-2-SSAN, GO TO UPDATE-WRITE-3.
    IF TCC = WS-2-TCC AND CENTURY-DATE = WS-2-CENTURY-DATE
        ADD 1 TO DUPE-REC, GO TO READ-3.
    IF TCC = WS-1-TCC AND CENTURY-DATE = WS-1-CENTURY-DATE
        ADD 1 TO DUPE-REC, GO TO READ-3.
    IF TCC = '7' OR TCC = '9', GO TO EXCUSED-ABS-1.
    IF TCC = '1' OR TCC = 'A' OR TCC = '4', GO TO UPDATE-1.
    IF TCC = '5' OR TCC = '8', GO TO ERROR-3.

DESERTER.
    ADD 1 TO X-DESERTED.
    GO TO READ-4.

START-UA.
    MOVE ZEROS TO OUT-REC.
    MOVE ZEROS TO WS-2.
    MOVE CORR PERS-FILE TO OUT-REC.
    MOVE SSAN TO SSAN-OR.
    MOVE TCC TO WS-2-TCC.
    MOVE CENTURY-DATE TO WS-2-CENTURY-DATE.
    MOVE SSAN TO WS-2-SSAN.
    GO TO READ-2.

READ-2.
    READ PERS-REC AT END GO TO WRAP-A.
    IF SSAN NOT = WS-2-SSAN, GO TO UPDATE-WRITE-2.
    IF TCC = WS-2-TCC AND CENTURY-DATE = WS-2-CENTURY-DATE,
        ADD 1 TO DUPE-REC, GO TO READ-2.
    IF TCC = '9' OR TCC = '7', GO TO EXCUSED-ABS-2.
    IF TCC = '1' OR TCC = 'A' OR TCC = '4', GO TO UPDATE-2.
    IF TCC = '5' OR TCC = '8', GO TO ERROR-2.

READ-4.
    READ PERS-REC AT END GO TO WRAP-UP.
    IF SSAN NOT = WS-2-SSAN GO TO UPDATE-WRITE-1.
    IF TCC = WS-2-TCC AND CENTURY-DATE = WS-2-CENTURY-DATE
        ADD 1 TO DUPE-REC, GO TO READ-4.
    IF TCC = '8' OR TCC = '5',
        MOVE ZEROS TO WS-1,
        MOVE TCC TO WS-1-TCC,
        MOVE CENTURY-DATE TO WS-1-CENTURY-DATE,
        GO TO READ-5.
    IF TCC = '7' OR TCC = '9' OR TCC = '1' OR TCC = '4'
        OR TCC = 'A', GO TO ERROR-4.

READ-5.
```

```
           READ PERS-REC AT END GO TO WRAP-UP.
           IF SSAN NOT = WS-2-SSAN GO TO UPDATE-WRITE-3.
           IF TCC = WS-2-TCC AND CENTURY-DATE = WS-2-CENTURY-DATE,
               ADD 1 TO DUPE-REC, GO TO READ-5.
           IF TCC = WS-1-TCC AND CENTURY-DATE = WS-1-CENTURY-DATE,
               ADD 1 TO DUPE-REC, GO TO READ-5.
           IF TCC = 'A' OR TCC = '1' OR TCC = '4' GO TO UPDATE-1.
           IF TCC = '5' OR TCC = '7' OR TCC = '8' OR TCC = '9'
               GO TO ERROR-5.

       UPDATE-WRITE-1.
           ADD 1 TO COUNTER.
           ADD 1 TO TOTAL-ABS.
           ADD TOTAL-ABS TO TOTAL-NO-UAS.
           SUBTRACT WS-2-CENTURY-DATE FROM 27375 GIVING TIME-ABSENT.
           IF TIME-ABSENT = ZEROS, MOVE 1 TO TIME-ABSENT.
           IF TOTAL-ABS > 10, GO TO WRITE-REC.
           GO TO LENGTH-ABS-1, LENGTH-ABS-2, LENGTH-ABS-3, LENGTH-ABS-4,
               LENGTH-ABS-5, LENGTH-ABS-6, LENGTH-ABS-7, LENGTH-ABS-8,
               LENGTH-ABS-9, LENGTH-ABS-10, DEPENDING ON TOTAL-ABS.

       UPDATE-WRITE-2.
           ADD 1 TO UA-CTR, ADD 1 TO UACTR.
           ADD 1 TO COUNTER.
           ADD 1 TO TOTAL-ABS.
           ADD TOTAL-ABS TO TOTAL-NO-UAS.
           MOVE 1 TO TIME-ABSENT.
           IF TOTAL-ABS > 10, GO TO WRITE-REC.
           GO TO LENGTH-ABS-1, LENGTH-ABS-2, LENGTH-ABS-3, LENGTH-ABS-4,
               LENGTH-ABS-5, LENGTH-ABS-6, LENGTH-ABS-7, LENGTH-ABS-8,
               LENGTH-ABS-9, LENGTH-ABS-10, DEPENDING ON TOTAL-ABS.

       UPDATE-WRITE-3.
           ADD 1 TO COUNTER.
           ADD 1 TO TOTAL-ABS.
           ADD TOTAL-ABS TO TOTAL-NO-UAS.
           SUBTRACT WS-2-CENTURY-DATE FROM WS-1-CENTURY-DATE
               GIVING TIME-ABSENT.
           IF TIME-ABSENT = ZEROS, MOVE 1 TO TIME-ABSENT.
           MOVE ZEROS TO WS-1.
           IF TOTAL-ABS > 10, GO TO WRITE-REC.
           GO TO LENGTH-ABS-1, LENGTH-ABS-2, LENGTH-ABS-3, LENGTH-ABS-4,
               LENGTH-ABS-5, LENGTH-ABS-6, LENGTH-ABS-7, LENGTH-ABS-8,
               LENGTH-ABS-9, LENGTH-ABS-10, DEPENDING ON TOTAL-ABS.

       ERROR-1.
           ADD 1 TO ERROR-1-CTR.
           ADD 1 TO TOTAL-ABS.
```

```
           MOVE 1 TO TIME-ABSENT.
           MOVE ZEROS TO WS-2.
           MOVE TCC TO WS-2-TCC.
           MOVE CENTURY-DATE TO WS-2-CENTURY-DATE.
           MOVE SSAN TO WS-2-SSAN.
           IF TOTAL-ABS > 10 AND TCC = '1', GO TO READ-1.
           IF TOTAL-ABS > 10 AND TCC = 'A', GO TO READ-2.
           GO TO LENGTH-ABS-A, LENGTH-ABS-B, LENGTH-ABS-C, LENGTH-ABS-D,
               LENGTH-ABS-E, LENGTH-ABS-F, LENGTH-ABS-G, LENGTH-ABS-H,
               LENGTH-ABS-I, LENGTH-ABS-J DEPENDING ON TOTAL-ABS.

       ERROR-2.
           ADD 1 TO ERROR-2-CTR.
           GO TO READ-2.

       ERROR-3.
           ADD 1 TO ERROR-3-CTR.
           GO TO READ-3.

       ERROR-4.
           ADD 1 TO ERROR-4-CTR.
           GO TO READ-4.

       ERROR-5.
           ADD 1 TO ERROR-5-CTR.
           GO TO READ-5.

       EXCUSED-ABS-1.
           MOVE ZEROS TO WS-1.
           ADD 1 TO EXCUSED-ABS-1-CTR.
           IF TOTAL-ABS = 0, GO TO NEW-RECORD ELSE GO TO READ-1.

       EXCUSED-ABS-2.
           ADD 1 TO EXCUSED-ABS-2-CTR.
           IF TOTAL-ABS = 0 GO TO NEW-RECORD ELSE GO TO READ-2.

       UPDATE-1.
           ADD 1 TO TOTAL-ABS.
           SUBTRACT WS-2-CENTURY-DATE FROM WS-1-CENTURY-DATE
               GIVING TIME-ABSENT.
           IF TIME-ABSENT = ZEROS, MOVE 1 TO TIME-ABSENT.
           MOVE ZEROS TO WS-1.
           MOVE ZEROS TO WS-2.
           MOVE TCC TO WS-2-TCC.
           MOVE SSAN TO WS-2-SSAN.
           MOVE CENTURY-DATE TO WS-2-CENTURY-DATE.
           IF TOTAL-ABS > 10 AND TCC = '1', GO TO READ-1.
           IF TOTAL-ABS > 10 AND TCC = 'A', GO TO READ-2.
```

```
           IF TOTAL-ABS > 10 AND TCC = '4', GO TO DESERTER.
           GO TO LENGTH-ABS-A, LENGTH-ABS-B, LENGTH-ABS-C, LENGTH-ABS-D,
               LENGTH-ABS-E, LENGTH-ABS-F, LENGTH-ABS-G, LENGTH-ABS-H,
               LENGTH-ABS-I, LENGTH-ABS-J DEPENDING ON TOTAL-ABS.

       UPDATE-2.
           ADD 1 TO UA-CTR, ADD 1 TO UACTR.
           ADD 1 TO TOTAL-ABS.
           MOVE 1 TO TIME-ABSENT.
           MOVE ZEROS TO WS-2.
           MOVE TCC TO WS-2-TCC.
           MOVE SSAN TO WS-2-SSAN.
           MOVE CENTURY-DATE TO WS-2-CENTURY-DATE.
           IF TOTAL-ABS > 10 AND TCC = '1', GO TO READ-1.
           IF TOTAL-ABS > 10 AND TCC = 'A', GO TO READ-2.
           IF TOTAL-ABS > 10 AND TCC = '4', GO TO DESERTER.
           GO TO LENGTH-ABS-A, LENGTH-ABS-B, LENGTH-ABS-C, LENGTH-ABS-D,
               LENGTH-ABS-E, LENGTH-ABS-F, LENGTH-ABS-G, LENGTH-ABS-H,
               LENGTH-ABS-I, LENGTH-ABS-J DEPENDING ON TOTAL-ABS.

       LENGTH-ABS-1.
           MOVE TIME-ABSENT TO LEN-ABS-1.
           MOVE TIME-ABSENT TO AVG-TIME-UA.
           ADD TIME-ABSENT TO USMC-DAYS-LOST.
           MOVE TIME-ABSENT TO LOST-TIME.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-2.
           MOVE TIME-ABSENT TO LEN-ABS-2.
           ADD LEN-ABS-1 LEN-ABS-2 GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 2 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-3.
           MOVE TIME-ABSENT TO LEN-ABS-3.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 3 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
```

```
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-4.
           MOVE TIME-ABSENT TO LEN-ABS-4.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4
               GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 4 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-5.
           MOVE TIME-ABSENT TO LEN-ABS-5.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 5 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-6.
           MOVE TIME-ABSENT TO LEN-ABS-6.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               LEN-ABS-6 GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 6 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-7.
           MOVE TIME-ABSENT TO LEN-ABS-7.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               LEN-ABS-6 LEN-ABS-7 GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 7 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
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           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-8.
           MOVE TIME-ABSENT TO LEN-ABS-8.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               LEN-ABS-6 LEN-ABS-7 LEN-ABS-8 GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 8 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-9.
           MOVE TIME-ABSENT TO LEN-ABS-9.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               LEN-ABS-6 LEN-ABS-7 LEN-ABS-8 LEN-ABS-9
               GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 9 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-10.
           MOVE TIME-ABSENT TO LEN-ABS-10.
           ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
               LEN-ABS-6 LEN-ABS-7 LEN-ABS-8 LEN-ABS-9 LEN-ABS-10
               GIVING TOT-DAYS-UA.
           MOVE TOT-DAYS-UA TO LOST-TIME.
           ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
           DIVIDE 10 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
           WRITE MASTER-REC FROM OUT-REC.
           MOVE ZEROS TO LENABS.
           IF EOJ = 1 GO TO FINISH.
           GO TO START-1.

       LENGTH-ABS-A.
           MOVE TIME-ABSENT TO LEN-ABS-1.
           IF TCC = '1', GO TO READ-1.
           IF TCC = 'A', GO TO READ-2.
           IF TCC = '4', GO TO DESERTER.
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LENGTH-ABS-B.
    MOVE TIME-ABSENT TO LEN-ABS-2.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-C.
    MOVE TIME-ABSENT TO LEN-ABS-3.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-D.
    MOVE TIME-ABSENT TO LEN-ABS-4.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-E.
    MOVE TIME-ABSENT TO LEN-ABS-5.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-F.
    MOVE TIME-ABSENT TO LEN-ABS-6.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-G.
    MOVE TIME-ABSENT TO LEN-ABS-7.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-H.
    MOVE TIME-ABSENT TO LEN-ABS-8.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

LENGTH-ABS-I.
    MOVE TIME-ABSENT TO LEN-ABS-9.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.
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LENGTH-ABS-J.
    MOVE TIME-ABSENT TO LEN-ABS-10.
    IF TCC = '1', GO TO READ-1.
    IF TCC = 'A', GO TO READ-2.
    IF TCC = '4', GO TO DESERTER.

WRITE-REC.
    ADD LEN-ABS-1 LEN-ABS-2 LEN-ABS-3 LEN-ABS-4 LEN-ABS-5
        LEN-ABS-6 LEN-ABS-7 LEN-ABS-8 LEN-ABS-9 LEN-ABS-10
        GIVING TOT-DAYS-UA.
    MOVE TOT-DAYS-UA TO LOST-TIME.
    ADD TOT-DAYS-UA TO USMC-DAYS-LOST.
    DIVIDE 10 INTO TOT-DAYS-UA GIVING AVG-TIME-UA ROUNDED.
    WRITE MASTER-REC FROM OUT-REC.
    MOVE ZEROS TO LENABS.
    IF EOJ = 1 GO TO FINISH.
    GO TO START-1.

WRAP-UP.
    MOVE 1 TO EOJ.
    IF WS-1-TCC = '0' GO TO UPDATE-WRITE-1.
    GO TO UPDATE-WRITE-3.

WRAP-A.
    MOVE 1 TO EOJ.
    GO TO UPDATE-WRITE-2.

FINISH.
    DIVIDE TOTAL-NO-UAS INTO USMC-DAYS-LOST
        GIVING USMC-AVG-LEN-UA ROUNDED.
    EXHIBIT NAMED COUNTER.
    EXHIBIT NAMED TOTAL-NO-UAS.
    EXHIBIT NAMED UA-CTR.
    EXHIBIT NAMED ERROR-1-CTR.
    EXHIBIT NAMED ERROR-2-CTR.
    EXHIBIT NAMED ERROR-3-CTR.
    EXHIBIT NAMED ERROR-4-CTR.
    EXHIBIT NAMED ERROR-5-CTR.
    EXHIBIT NAMED DUPE-REC.
    EXHIBIT NAMED EXCUSED-ABS-1-CTR.
    EXHIBIT NAMED EXCUSED-ABS-2-CTR.
    EXHIBIT NAMED USMC-DAYS-LOST.
    EXHIBIT NAMED USMC-AVG-LEN-UA.
    CLOSE PERS-REC WITH DISP.
    CLOSE MASTER-LIST WITH DISP.
    STOP RUN.
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APPENDIX E

SPSS LISTINGS

This appendix is bound separately.

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